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no. 129

# DIRECTORY of Field Activities of the Bureau of Plant Industry

Miscellaneous Publication  
No. 129



United States  
Department of Agriculture  
Bureau of Plant Industry



United States Department of Agriculture  
Bureau of Plant Industry

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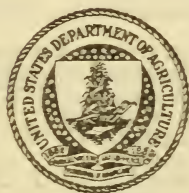
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of  
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# ORGANIZATION OF THE BUREAU OF PLANT INDUSTRY

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**T**HE ACTIVITIES of the Bureau of Plant Industry are primarily devoted to agricultural research and related experiments, although incidental service, regulatory and extension work, is also under way. The scope of its researches includes the study of destructive plant diseases and the establishment of methods for eradication and control; the improvement of crop, ornamental, and other economic plants by breeding and selection; the introduction of promising seeds and plants from foreign countries; the improvement of methods of plant production; and the utilization of plants of economic value.

The field activities and field stations of the bureau, as distinguished from the laboratory, administrative, and directive work conducted in Washington, may be grouped under three general heads: (1) That carried on in various parts of the country on land owned by the Government and used and controlled by the bureau, (2) that conducted on land rented by the bureau, and (3) that carried on where land and other facilities are provided as part of a joint cooperative plan. The last line of work is conducted, for the most part, in cooperation with the State experiment stations.

Practically every major project of the bureau has its ramifications in one or more of the three groups of field activities. In fact, it is safe to say that fully 60 per cent of all the investigative work is in the field, as distinguished from that carried on in the laboratories in Washington.



# DIRECTORY OF FIELD ACTIVITIES OF THE BUREAU OF PLANT INDUSTRY

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The field stations of the Bureau of Plant Industry are shown in boldface type, and the other activities of the bureau in field and laboratory, usually in cooperation with a State, appear in italic. Italics are also used to designate divisions or projects of the bureau under which certain lines of work at stations are conducted. The locations are shown on the map, Figure 1 (following p. 57).

## ALABAMA

### Mobile

*Citrus Canker Eradication Field Office.*—Address, P. O. Box 1664.

*Citrus Canker Eradication.*—Direction of local activities in the eradication of citrus canker in Alabama. J. W. Pace, agent and chief inspector, in charge.

### Silverhill

*Cooperative tests* of canker-resistant citrus stocks and new hardy and early maturing strains of Satsuma oranges, conducted by *Division of Horticultural Crops and Diseases*, on property of O. F. E. Winberg, three-fourths mile southeast of Silverhill; Mr. Winberg having local supervision of the work. Rail connections at Bay Minette on the Louisville & Nashville Railroad to Robertsdale.

### Spring Hill

*United States Pecan Field Laboratory.*—Office and laboratory located at No. A Dilston Street, approximately 7½ miles west of the Louisville & Nashville Railroad station in

Mobile. May be reached by driving out Broad Street to Old Shell Road, thence 5 miles to crest of hill, turn right at sign pointing to The Cedars (Catholic College). For transportation communicate with A. C. Gossard. Telephone, Dexter 5193-W.

*Horticultural Crops and Diseases.*—Investigations on pecan culture. Work directed from Albany, Ga., by H. L. Crane, horticulturist; A. C. Gossard, assistant pomologist, in local charge.

Investigations of pecan and other nut diseases. Work directed from Albany, Ga., by J. B. Demaree, pathologist; H. E. Parson, assistant pathologist, in local charge.

## ARIZONA

### Sacaton

United States Field Station.—On Pima Indian Reservation, 15 miles north of Casa Grande railroad station. May be reached via Tucson-Phoenix main line (Picacho, Phoenix-Wellton Division) of the Southern Pacific Railroad. Flag stop for through passengers Oldberg, 5 miles east, or Chandler, 20 miles north of Sacaton. Transportation arrangements may be made in advance by wiring C. J. King at Casa Grande or by writing him at Sacaton. Telephone, Casa Grande 60-2.

*Cereal Crops and Diseases.*—Experiments with introduced wheat, barley, oats, and grain sorghums to determine varietal identity, spring and winter habit, and freedom from destructive diseases; varietal comparisons of barley in the nursery, and genetic studies on fundamental problems of inheritance in barley; physiologic studies of tissue fluids of grain sorghums. Work directed from Washington, D. C.; local supervision by C. J. King, agronomist and superintendent.

*Cotton, Rubber, and Other Tropical Plants.*—Acclimatization and adaptation investigations,

with special reference to cotton, dates, pomegranates, and other crop plants likely to prove of value to the Indians on the Pima Reservation. C. J. King, agronomist and superintendent, in charge.

*Egyptian Cotton Breeding.*—Egyptian cotton-breeding investigations. G. J. Harrison, associate agronomist, in charge.

*Genetics and Biophysics.*—Investigations in maize-breeding methods; studies on root rot and water requirement of cotton and alfalfa and on alkali resistance of maize. Work directed from Washington, D. C.; local supervision by C. J. King, agronomist and superintendent.

*Horticultural Crops and Diseases.*—Field tests of date palms, with special reference to determining varieties best adapted to prove commercially successful in Arizona; incidental tests also being made of pistache nut and citrus fruits. Work directed by W. T. Swingle, principal physiologist; local supervision by R. H. Peebles, chief scientific aid.

### Superior

*Boyce Thompson Southwestern Arboretum (co-operative investigations).*—Arboretum is located about 3 miles west of Superior, which is on the Magma Arizona Railroad, 25 miles west of Globe, Ariz. Best reached from either Phoenix or Globe by bus which passes the arboretum, and passengers may leave the bus there rather than at Superior.

*Forage Crops and Diseases.*—Tests of newly introduced grasses and other forage plants to determine their value and adaptation to range conditions in the Southwest. Work directed from Washington, D. C.; local supervision by F. J. Crider, director of the Southwestern Arboretum.

## Tucson

*State Agricultural Experiment Station (cooperative investigations).*—May be reached by street car. Telephone the university.

*Cereal Crops and Diseases.*—Investigations on culture and improvement of cereals, particularly wheat, barley, oats, and grain sorghums. A. T. Bartel, junior agronomist, in charge.

*University of Arizona (cooperative investigations).*—May be reached by street car. Telephone the university.

*Western Irrigation Agriculture.*—Investigations of quality of irrigation water and subsoil and drainage waters in relation to the alkali problem and to sustained production on irrigated lands, particularly Government reclamation projects. J. F. Breazeale, senior biochemist, in charge.

## ARKANSAS

## Fayetteville

*State Agricultural Experiment Station (cooperative investigations).*—Within walking distance of the station of the St. Louis-San Francisco Railway. It is visible on the heights above the station. Telephone.

*Cereal Crops and Diseases.*—Research on diseases of rice, including stem rot, straight-head, leaf spots, and seedling diseases. E. C. Tullis, agent, in charge. Room 225, Agricultural Building. Telephone 185; or 1360, branch 40.

*Horticultural Crops and Diseases.*—Investigations on peach bacterial spot, brown rot and scab, apple leaf spots and apple blotch; also new fungicides for the control of fruit diseases. J. C. Dunegan, associate pathologist, in charge. Room 225, Agricultural Building.

## Stuttgart

*Rice Branch Station, Agricultural Experiment Station (cooperative investigations).*—Take Highway 30, 1 mile south and 8 miles east of Stuttgart, which is reached on the Chicago, Rock Island & Pacific and St. Louis Southwestern Railways.

*Cereal Crops and Diseases.*—Rice investigations, including varietal, breeding, and cultural experiments, and rice diseases, the latter being the field phases of the studies recorded under Fayetteville. C. R. Adair, junior agronomist, in charge. Telephone 9509 F-11.

## CALIFORNIA

## Bard

*United States Acclimatization Garden.*—On the Bard Mesa, 13 miles northeast of Yuma, Ariz., railroad station (Southern Pacific) and 5 miles northeast of Bard post office. Telegraph address, Yuma, Ariz.; mail address, Bard, Calif. Transportation arrangements may be made in advance by writing or wiring R. E. Beckett.

*Cotton, Rubber, and Other Tropical Plants.*—Acclimatization and adaptation investigations with cotton, rubber, and other tropical crop plants. R. E. Beckett, principal scientific aid and superintendent, in charge.

*United States Yuma Field Station.*—Eight miles north of Yuma, Ariz., railroad station (Southern Pacific). May be reached by stage from Yuma to Bard. Telephone E. G. Noble regarding instructions for reaching farm or for transportation arrangements.

*Egyptian Cotton Breeding.*—Egyptian cotton-breeding investigations. Local supervision by E. G. Noble, associate agronomist and superintendent.

*Western Irrigation Agriculture.*—Irrigated rotation and tillage experiments; varietal tests of alfalfa, grain sorghums, cotton, barley, wheat, and truck crops; testing and propagation of various ornamental trees and shrubs for distribution; breeding and selection of cotton and alfalfa; fertilizer tests; pasturing experiments; investigations in reclamation of alkali and sandy soils. E. G. Noble, associate agronomist and superintendent, in charge.

### Berkeley

*State College of Agriculture and Agricultural Experiment Station (cooperative investigations).*—Located in east part of Berkeley. May be reached by street car from Berkeley station on Southern Pacific Railroad or by ferry and street car from San Francisco.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. H. R. Offord, agent, in charge. Room 26, Gianinni Hall.

*Cereal Crops and Diseases.*—Investigations of the cytology of infection of wheat by rusts. Ruth F. Allen, pathologist, in charge. Telephone, Berkeley 7100, local 126.

*University of California (cooperative investigations).*—Located in east part of Berkeley. May be reached by street car from Berkeley station on Southern Pacific Railroad or by ferry and street car from San Francisco.

*Horticultural Crops and Diseases.*—Greenhouse experiments with tomatoes. Michael Shapovalov, senior pathologist, in charge. In plant pathology division.

### Biggs

*Biggs Rice Field Station (cooperation with State Agricultural Experiment Station and Sacramento Valley Grain Association).*—Four miles northwest of Biggs, which is on the Southern Pacific Railroad. Transportation arrangements may be made by communicating with L. L. Davis. Telephone, 12-F-11.

*Cereal Crops and Diseases.*—Rice investigations, including varietal, breeding, cultural, irrigation, and fertilizer experiments and water-grass control. L. L. Davis, assistant agronomist, in charge.

### Chico

**United States Plant Introduction Garden.**—

Four miles south of Chico, which is on the Southern Pacific Railroad. May be reached by auto or by Government bus, which makes a daily trip to the station from Chico. Telephone, 312-W.

*Cotton, Rubber, and Other Tropical Plants.*—Cotton investigations, including a study of plant behavior, methods of culture, and comparisons of varieties and spacings. Work directed from Shafter, Calif.; local supervision by J. E. Morrow, superintendent.

*Foreign Plant Introduction.*—Propagation and testing of new plant introductions. The test orchard plantings include jujubes, olives, pistache, peaches, pears, plums, persimmons, flowering cherries, almonds, nectarines, and ornamentals. J. E. Morrow, superintendent, in charge.

*Horticultural Crops and Diseases.*—Grape investigations, including propagation and studies of varieties, habits of growth, characteristics, and merits of fruits, and adaptability. Work directed from Washington, D. C.; local supervision by F. L. Husmann, superintendent, Napa.

### Chula Vista

**United States Vegetable-Disease Field Laboratory.**—In office building of Orchard Operating Co., Third Avenue and K Street. Reached by Chula Vista bus from San Diego in one-half hour.

*Horticultural Crops and Diseases.*—Investigation of diseases of lettuce, melons, celery, and other vegetables, especially breeding of disease-

resistant strains, including field trials in Imperial Valley. I. C. Jagger, senior pathologist, in charge.

### Colfax

*United States grape experiments.*—On property of Mrs. Louis Cortopassi, 1 mile southwest of railroad station (Southern Pacific). May be reached by automobile.

*Horticultural Crops and Diseases.*—Experiments with grapes, including studies of varietal adaptability and of the adaptability of resistant stocks to different soils and congeniality with different varieties. Work directed from Washington, D. C.; local supervision by F. L. Husmann, superintendent, Napa.

### Davis

*University Farm (cooperative investigations).*—About 1 mile from Southern Pacific Railroad station. Bus line available to farm, or transportation arrangements may be made in advance by communicating with the superintendent. Davis may be reached from Sacramento by busses of the California Transit Co. and the River auto stage at frequent intervals.

*Cereal Crops and Diseases.*—Agronomic experiments with wheat, oats, and barley, including varietal comparisons, breeding experiments, and genetic studies. G. A. Wiebe, assistant agronomist, in charge. Telephone 22-R.

*Horticultural Crops and Diseases.*—Almond breeding investigations. Work directed by M. N. Wood, pomologist, from Sacramento.

Studies in connection with vegetable variety type-book work on tomatoes and cabbage, O. H. Pearson, in charge; beets, H. A. Jones; spinach, G. W. Scott; and carrots, S. L. Emsweller, collaborators.



*Sugar Plant Investigations.*—Agronomic investigations on sugar beets, chiefly in the Delta area. C. A. Lavis, associate agronomist, in charge.

### Elk Grove

*United States Grape Experiments.*—On property of Colonial Grape Products Co., about two blocks from Southern Pacific Railroad station.

*Horticultural Crops and Diseases.*—Experiments with grapes, including studies of varietal adaptability and of the adaptability of resistant stocks to different soils and congeniality with different varieties. Work directed from Washington, D. C.; local supervision by F. L. Husmann, superintendent, Napa.

### Fresno

*United States Experiment Vineyard.*—Four miles southeast of Fresno. Electric railway runs within  $1\frac{1}{2}$  miles of the vineyard. Mr. Snyder's headquarters may be reached by taking Recreation Park car from either Santa Fe or Southern Pacific Railroad station, getting off at Ninth Street and walking one block north.

*Horticultural Crops and Diseases.*—Grape investigations. Elmer Snyder, pomologist, in charge. Residence, 3930 Kerckhoff Avenue. Telephone, 7695-W.

Investigations in fruit and vegetable handling, transportation and storage, with particular reference to table grapes. W. T. Pentzer, assistant physiologist, in charge. Residence, 1717 Poplar Street. Telephone, 2-0731.

*United States Fruit Disease Field Laboratory.*—2025 Del Mar Avenue (on grounds of Fresno State College). About  $1\frac{1}{2}$  miles from Southern Pacific Railroad station.

*Horticultural Crops and Diseases.*—Investigations of physiological diseases of orchards and vineyards. W. S. Ballard, senior pathologist, in charge.

### Indio

*Acclimatization and adaptation investigations*, with particular attention to cotton breeding, conducted by *Division of Cotton, Rubber, and Other Tropical Plants* in the Coachella Valley of California. H. G. McKeever, associate agronomist, in charge. During growing season may be reached by mail at Box 121, Indio, or by telegraph, care of postmaster, Indio.

**United States Experiment Date Garden.**—Two miles west of Southern Pacific Railroad station at Indio. Automobile available to date garden; arrangements may be made by telephoning the superintendent.

*Horticultural Crops and Diseases.*—Experiments in growing date palms, pollination, investigations on root growth and pruning, and breeding of new varieties. Work directed by W. T. Swingle, principal physiologist, and F. A. Thackery, senior agriculturist; station work supervised by R. W. Nixon, associate horticulturist.

Investigations on date handling and storage. W. R. Barger, associate physiologist, in charge.

### Los Angeles

*United States Horticultural Field Office.*—631 Federal Building, 301 North Spring Street.

*Horticultural Crops and Diseases.*—General supervision of field work in California, Arizona, and Nevada, on dates, pistaches, and citrus hybrids and stocks. F. A. Thackery, senior agriculturist, in charge. Residence, 1124 West Fifty-first Place.

*United States Horticultural Field Laboratory.*—

Located at University of California, 405 Hilgard Avenue, about 15 miles from business section of the city. Telephone, Oxford 1071. Call laboratory before making trip.

*Horticultural Crops and Diseases.*—Investigations of root-rot diseases of vegetables. H. G. MacMillan, senior pathologist, in charge.

### Oakville

*United States Experiment Vineyard.*—About 13 miles north of Napa and 2 miles south of Oakville, which is on the Southern Pacific Railroad.

*Horticultural Crops and Diseases.*—Grape investigations. F. L. Husmann, superintendent, in charge. Residence, 842 Seminary Street, Napa. Telephone, 636-J.

### Palo Alto

*Leland Stanford Junior University (cooperative investigations).*—About 1 mile from Southern Pacific Railroad station at Palo Alto. May be reached by bus, or visitors will be met at station on request.

*Horticultural Crops and Diseases.*—Fruit-breeding investigations, special attention being given to peaches, plums, apricots, and other deciduous fruits. W. F. Wight, botanist, in charge. Box 775, Palo Alto. Telephone, 5053.

### Pomona

*United States Horticultural Field Laboratory.*—Located in new Post Office Building. Take Pacific Electric from Los Angeles.

*Horticultural Crops and Diseases.*—Investigations in fruit and vegetable handling, transportation and storage, including studies on pre-cooling and ocean transportation of citrus fruits, and special studies on treatments to con-

trol blue mold and other organisms of decay. C. W. Mann, senior pomologist, in charge.

Lemon irrigation investigations. J. R. Furr, assistant horticulturist, in charge.

### Riverside

*Citrus Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—About 2 miles from Riverside, which may be reached by Pacific Electric, Atchison, Topeka & Santa Fe, Southern Pacific, and Union Pacific Railroads. Take experiment station bus leaving Riverside post office at 8.30 a. m. and 1 p. m. Telephone, 3720.

*Forage Crops and Diseases.*—Study of alfalfa diseases in southern California. J. L. Weimer, senior pathologist, in charge.

*Horticultural Crops and Diseases.*—Citrus progeny investigations in connection with fruit improvement through bud selection. A. D. Shamel, principal physiologist, in charge.

Citrus variety collection, citrus wild relatives and stock tests. W. T. Swingle, principal physiologist, and R. W. Nixon, associate horticulturist, in charge.

Date variety tests. W. T. Swingle, principal physiologist, and R. W. Nixon, associate horticulturist, in charge.

*Rubidoux Laboratory (cooperation with State Agricultural Experiment Station).*—Located at Fourteenth and Alvarado Streets, a short distance from railroad stations. Telephone, 490.

*Horticultural Crops and Diseases.*—Western tomato disease investigations. Michael Shapovalov, senior pathologist, in charge.

*Western Irrigation Agriculture.*—Field investigations in irrigation agriculture, with special reference to the boron content of irrigation waters and in the soil solution; methods of

irrigation, isolation of sources of contamination of the water supply, and other correctives designed to prevent injury to orchard crops by boron in the irrigation water, and testing of orchard crops for resistance to boron injury. F. M. Eaton, associate physiologist, in charge.

*United States Horticultural Field Office.*—Room 8, Post Office Building, 3580 Seventh Street, near railroad, Pacific Electric, and motor-bus depots. Telephone. 599.

*Horticultural Crops and Diseases.*—Investigations in fruit improvement through bud selection; bud selection work with citrus and deciduous fruit varieties. A. D. Shamel, principal physiologist, in charge.

*United States Sugar Plant Field Station.*—Office located in Girls' High School Building (between Lemon, Lime, Ninth, and Tenth Streets).

*Sugar Plant Investigations.*—Investigations of curly-top disease of sugar beets. Eubanks Carsner, senior pathologist, in charge.

Agronomic investigations on sugar beets in southern California. Charles Price, associate agronomist, in charge.

### Sacramento

*Cooperative Seed Testing Laboratory.*—State department of Agriculture. Capitol Extension Building. Telephone.

*Seed Investigations.*—Testing agricultural seeds for mechanical purity and germination; identification of seeds of cultivated plants and weeds; testing seeds submitted in connection with enforcement of Federal seed act. W. L. Goss, senior botanist, in charge; Leatha D. Bunting, junior botanist.

*State Department of Agriculture.*—Capitol Extension Building. Telephone.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. G. A. Root, associate pathologist and State leader, in charge.

*United States Horticultural Field Office.*—Room 829, Forum Building, Ninth and K Streets. Telephone, Main 2780-W.

*Horticultural Crops and Diseases.*—Investigations in fruit production. C. F. Kinman, pomologist, in charge.

Experiments in nut culture; projects in almond breeding; pollination experiments on nut trees; collection of data relating to nut production in California. M. N. Wood, pomologist, in charge.

### San Diego

*United States San Diego Acclimatization Garden.*—On Torrey Road (coast highway between Los Angeles and San Diego) at Torrey Pines, 6 miles north of La Jolla. Station may be reached by automobile from San Diego or by taking regular stage line from San Diego. Stages from Los Angeles or San Diego will stop at the station entrance to discharge passengers. Transportation arrangements may be made in advance by communicating with C. G. Marshall, Box 308, La Jolla. Telephone, La Jolla 36923.

*Cotton, Rubber, and Other Tropical Plants.*—Acclimatization investigations with cotton, rubber, and other tropical crop plants. C. G. Marshall, assistant agronomist and superintendent, in charge.

*Drug and Related Plants.*—Experimental culture of plants yielding volatile oils used in the perfume industry. Work directed from Washington, D. C.; local supervision by C. G. Marshall, assistant agronomist and superintendent.

*Genetics and Biophysics.*—Hybridization and genetic studies with maize and maize relatives.

Work directed from Washington, D. C.; local supervision by C. G. Marshall, assistant agronomist and superintendent.

*Horticultural Crops and Diseases.*—A propagating and reconditioning station with special greenhouse facilities for handling citrus plants preparatory to their distribution to cooperative agencies and individuals in California. Work directed by W. T. Swingle, principal physiologist; local supervision of greenhouse work at Torrey Pines (June to September) by Eugene May, principal scientific aid.

Field tests of avocado pollination. Work directed by T. R. Robinson, senior physiologist.

### San Francisco

**United States Forest Pathology Field Office.**—

Located at Forest Service headquarters, Ferry Building. Telephone, Kearny 5868.

*Forest Pathology.*—Investigation of forest and ornamental tree diseases; direction of forest-pathology activities for National Forest Districts 4 and 5 in cooperation with the Forest Service. W. W. Wagener, pathologist, in charge.

### Shafter

**United States Cotton Field Station.**—Two miles north of Shafter (Kern County) railroad station, main line of Atchison, Topeka & Santa Fee Railway. Transportation arrangements may be made in advance by communicating with F. W. Herbert. Telephone, Shafter 16.

*Cotton, Rubber, and Other Tropical Plants.*—Acclimatization and adaptation investigations, with special reference to the breeding and cultural improvement of cotton. F. W. Herbert, principal scientific aid, acting in charge.

*Horticultural Crops and Diseases.*—Nursery-stock investigations, including studies of fruit-

tree stocks and their propagation, and ornamental plant stocks with special reference to rose stocks. L. B. Scott, senior pomologist, in charge.

Investigations on deciduous fruit improvement through bud selection, with particular reference to the behavior of bud mutation progenies. F. N. Harmon, junior pomologist, in charge.

Grape investigations, principally a study of resistant stocks. Work directed from Washington, D. C.; local supervision by Elmer Snyder, 3930 Kerckhoff Avenue, Fresno.

## CANAL ZONE

### Ancon

*Experimental rubber plantings of Division of Cotton, Rubber, and Other Tropical Plants.*—F. C. Baker, senior technologist, in charge. Address, P. O. Box A-39, Port au Prince, Haiti. Local supervision by James Zetek, associate entomologist. Mr. Zetek's office is in the United States Entomological Laboratory, which is on Ancon Hill, on the road leading to the Ancon Hospital.

*Experimental rubber plantings of Division of Cotton, Rubber, and Other Tropical Plants,* located on Fort Sherman Military Reservation. F. C. Baker, senior technologist, in charge. Address, P. O. Box A-39, Port au Prince, Haiti.

### Summit

*Experimental rubber plantings of Division of Cotton, Rubber, and Other Tropical Plants,* in cooperation with Canal Zone Plant Introduction Gardens. F. C. Baker, senior technologist, in charge. Address P. O. Box A-39, Port au Prince, Haiti. Local supervision by J. E. Higgins, agronomist with Panama Canal Service, Summit, Canal Zone.



*Propagation and cultural experiments with Abacá (Manila Hemp), conducted by Division of Fiber Plant Investigations.*—Work directed from Washington, D. C.; local supervision by J. E. Higgins, agronomist with Panama Canal Service, Summit, Canal Zone.

## COLORADO

### Akron

**United States Dry Land Field Station.**—About 4 miles east of Akron (Chicago, Burlington & Quincy Railroad), on Golden Belt Highway. May be reached by automobile or transportation arrangements may be made by communicating with J. F. Brandon. Telephone 86-R-2.

*Cereal Crops and Diseases.*—Agronomic experiments with wheat, oats, barley, and grain sorghums, including varietal comparisons, breeding and genetic studies, and cultural experiments. J. J. Curtis, junior agronomist, in charge.

*Dry Land Agriculture.*—Dry-land crop rotations and production, forestry investigations, and use of sheep with pasture rotations, all in cooperation with Colorado Agricultural Experiment Station. J. F. Brandon, associate agronomist and superintendent, in charge.

### Fort Collins

*State College of Agriculture (cooperative investigations).*—About 1 mile from railroad stations at Fort Collins, which is reached by the Colorado & Southern and Union Pacific Railroads. Take street car to college.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State department of agriculture.) E. A. Lungren, associate pathologist, in charge of district No. 3 (Colorado, west-

ern Nebraska, and Wyoming). Office in Botany Building.

*United States Sugar Plant Field Experiments* (cooperative investigations, State College of Agriculture).—Field operations at Larimer County hospital grounds, on East Elizabeth Street (1 mile east of college).

*Sugar Plant Investigations*.—Investigations of methods of sugar-beet breeding for beet improvement and for disease resistance. Dewey Stewart, associate pathologist, in charge. Office in Botany Building, State College of Agriculture.

Agronomic investigations with sugar beets in cooperation with Colorado Agricultural Experiment Station, Division of Agronomy. H. E. Brewbaker, associate agronomist, in charge. Office in Agronomy Building, State College of Agriculture.

### Greeley

**Colorado Potato Experiment Station**.—About 3½ miles northeast of railroad station at Greeley, which is on the Colorado & Southern and the Union Pacific Railroads. Transportation arrangements may be made by communicating with W. C. Edmundson. Telephone 636. Office and laboratory located at 1211 Eighth Street. Telephone 568-W.

*Horticultural Crops and Diseases*.—Potato investigations. W. C. Edmundson, horticulturist and superintendent, in charge.

Potato disease investigations. L. A. Schaal, assistant pathologist, in charge.

Bean diseases and methods for their control; breeding and selection of beans with special reference to resistance to disease and to improved table quality. Work directed from Washington, D. C., by W. J. Zaumeyer, associate pathologist; in charge during growing season.

Studies in connection with vegetable variety type-book work on cabbage. W. C. Edmundson, horticulturist, in charge.

### Mancos

*Montezuma National Forest (cooperative investigations).*—In southwestern Colorado near Mancos, which is on the Rio Grande Southern Railroad. Arrangements for transportation to experimental areas may be made by communicating with the forest supervisor, Mancos, Colo.

*Forage Crops and Diseases.*—Experiments in cooperation with the Forest Service in establishing sweetclover on depleted range lands, including tests of sweetclover strains. Work directed from Washington, D. C.; local supervision by Forest Service officer at Mancos.

### Rocky Ford

*Arkansas Valley Substation, State Agricultural Experiment Station (cooperative investigations).*—One mile southeast of Rocky Ford (Atchison, Topeka & Santa Fe Railway).

*Forage Crops and Diseases.*—Experiments in red-clover seed production. Work directed from Washington, D. C.; local supervision by Robert Gardner, associate chemist of the substation.

*United States Sugar Plant Field Laboratory.*—Nine blocks northwest of post office at Rocky Ford (Atchison, Topeka & Santa Fe Railway), opposite American Beet Sugar Co. factory.

*Sugar Plant Investigations.*—Investigations on methods of sugar-beet culture and of disease control. G. W. Deming, assistant agronomist, in charge.

Agronomic investigations with sugar beets, in cooperation with State Agricultural Experiment Station. G. W. Deming, assistant agronomist, in charge.

## CONNECTICUT

## New Haven

*State Agricultural Experiment Station.*—123 Huntington Street. May be reached from railroad station by Whitney Avenue cars; get off at Huntington Street and walk up hill 1½ blocks. Telephone, Liberty 1253.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. J. E. Riley, jr., associate pathologist and State leader, in charge. May be reached at office of station forester.

*Yale University (cooperative investigations).*—Marsh Hall, 360 Prospect Street. Take street car from railroad station to Yale University. Telephone 3-2010.

*Forest Pathology.*—Investigations of larch canker and related diseases and of tree surgery. R. P. Marshall, associate pathologist, in charge.

## Windsor

*Tobacco Substation, State Agricultural Experiment Station (cooperative investigations).*—One mile west of Windsor (on New York, New Haven & Hartford Railroad); may be reached by going west on Bloomfield Avenue to top of Cook Hill, then taking left fork. Station is first farm on right.

*Tobacco and Plant Nutrition.*—Investigations of root diseases and fertilizer requirements of tobacco. C. V. Kightlinger, agent, in charge. Headquarters in the agronomy department of the Massachusetts Agricultural College, Amherst, Mass. Telephone, Amherst 126. P. J. Anderson, in charge of the tobacco substation, may be reached by calling Windsor 312-5.

## FLORIDA

## Bradenton

*Tomato Disease Field Laboratory, State Agricultural Experiment Station (cooperative in-*

*vestigations*).—Six miles north and west of Bradenton (Atlantic Coast Line and Seaboard Air Line Railroads). May be reached by automobile, taking Bayshore Road for 5 miles, turning right at Taru siding. Bus service also from Tampa. Telephone, 26490.

*Horticultural Crops and Diseases*.—Studies of virus diseases of the tomato. F. L. Wellman, associate pathologist, in charge. Activities conducted here from January to May; balance of year at Washington, D. C.

### Canal Point

United States Sugar Plant Field Station.—

Canal Point is on a branch line of the Florida East Coast Railway, but the best way to reach the station is to take a bus at the foot of Clematis Avenue (opposite Palms Hotel), West Palm Beach, at 7.45 a. m., to Canal Point; walk one-half mile north.

*Sugar Plant Investigations*.—Investigations of sugarcane breeding for resistance to diseases, and agronomic studies regarding trials of varieties of sugarcane and cultural practices. R. T. Gibbens, assistant agronomist, in charge.

### Coconut Grove

United States Plant Introduction Garden.—

At Chapman Field, 6 miles south of Coconut Grove, which is on the Florida East Coast Railway, and approximately 15 miles from Florida East Coast Railway station at Miami. May be reached by automobile. No telephone. Use Western Union telegraph, as there is no Postal telegraph service at Coconut Grove.

*Cotton, Rubber, and Other Tropical Plants*.—Acclimatization investigations with cotton, rubber, and other tropical plants. H. F. Loomis, associate agronomist, in charge.

*Foreign Plant Introduction*.—Propagation and testing of new plant introductions. T. A. Fen-

nell, principal scientific aid and acting superintendent, in charge.

### Eustis

*United States Citrus Field Experiments.*—At end of Center Street, outskirts of Eustis, which is on the Atlantic Coast Line Railroad. No telephone.

*Horticultural Crops and Diseases.*—Hybridization of citrus fruits; testing of citrus hybrids; breeding new types of citrus plants to meet special conditions. Work directed by W. T. Swingle, principal physiologist; local supervision by E. M. Savage, assistant plant breeder.

### Gainesville

*State Agricultural Experiment Station (cooperative investigations).*—About one-half mile from railroad stations at Gainesville, which is on the Atlantic Coast Line and Seaboard Air Line Railroads.

*Forage Crops and Diseases.*—Investigations of grasses and legumes adapted to the Southeastern States, including methods of pasture management and fertilization; utilization of croton and other acid-tolerant legumes; and the value of cover and green-manure crops. G. E. Ritchey, assistant agronomist, in charge.

*Horticultural Crops and Diseases.*—Satsuma orange and other subtropical fruit-production investigations. H. P. Traub, horticulturist, in charge.

*Citrus Canker Eradication Field Office.*—On University of Florida campus.

*Citrus Canker Eradication.*—Direction of local activities in the eradication of citrus canker in Florida. Wilmon Newell, collaborator and commissioner of State Plant Board, in charge.

### Homestead

*Subtropical Experiment Station, State Agricultural Experiment Station (cooperative inves-*

*tigations*).—Northwest of Homestead (Florida East Coast Railway). Drive west on Moury Street 1 mile to Redland Road, turn north on Redland Road 2 miles to Waldin Drive, then west on Waldin Drive one-fourth mile. No public conveyances available. Telephone.

*Horticultural Crops and Diseases*.—Studies of disease-resistant varieties of tomatoes. H. S. Wolfe, of the substation, in local charge.

### Lake Alfred

*Citrus Experiment Station, State Agricultural Experiment Station (cooperative investigations)*.—Three miles southwest of Lake Alfred (Atlantic Coast Line Railroad). May be reached by automobile.

*Horticultural Crops and Diseases*.—Investigations in citrus and subtropical fruit production and bud selection. Work directed from Washington, D. C.; local supervision by J. H. Jeffries, superintendent.

### Orlando

*United States Horticultural Field Laboratory*.—Northwest corner of fair grounds, near West Amelia and Parramore Street, 2½ miles from Atlantic Coast Line Railroad station; 1 mile from hotels and post office. Telephone, 3106.

*Horticultural Crops and Diseases*.—Investigations of citrus and subtropical fruit diseases. H. E. Stevens, senior pathologist, in charge.

Investigations in handling, storage, and transportation of fruits and vegetables, especially the coloring of citrus fruits. J. R. Winston, senior horticulturist, in charge.

## GEORGIA

### Albany

*United States Pecan Field Laboratory*.—Office and laboratory located at 1503 North Jefferson Street, about 1 mile northwest of Union Sta-

tion. Telephone United States Pecan Disease Laboratory. Telephone, 327. Field investigations conducted at Philema.

*Horticultural Crops and Diseases.*—Nut culture studies on pecan orchard management; crop-production studies, varietal adaptability; pecan root-stock investigations; physiological studies of response of pecans to certain orchard practices. H. L. Crane, horticulturist, in charge.

Investigations of pecan and other nut diseases. J. B. Demaree, pathologist, in charge.

### Athens

*State College of Agriculture (cooperative investigations).*—College located about 10-minute ride by street car from center of town.

*Cereal Crops and Diseases.*—Investigations of fall-sown cereals, including studies of varieties, breeding, dates, and rates of seeding, tillage, rotations, and fertilizers. R. R. Childs, agent, in charge. Located in agronomy department. Telephone, 467.

### Cairo

*United States Sugar Plant Field Laboratory.*—Two and one-half miles north of Cairo, which is on the Atlantic Coast Line Railroad. May be reached by driving north on Broad Street to fork in road, then taking left road 2 miles to corrugated-iron sirup mill on left. Office in courthouse.

*Sugar Plant Investigations.*—Studies of sugarcane varieties for sirup production, methods of making sirup on the farm, and use of by-products. B. A. Belcher, assistant agronomist, in charge.

### Fort Valley

*United States Peach Disease Field Laboratory.*—On grounds of Hale-Georgia Farms Co. (Inc.), the entrance to which is about 2 miles east on the Miami Valley road from the Union



Station at Fort Valley (Central of Georgia Railway). Laboratory is about one-half mile north on the plantation avenue from Miami Valley Road. Telephone, Fort Valley 148-W.

*Horticultural Crops and Diseases.*—Investigations of diseases of peaches. L. M. Hutchins, senior pathologist, in charge.

*Phony Peach Eradication.*—Headquarters for campaign for eradication of phony peach disease in Georgia. W. F. Turner, agent, in charge.

### Philema

United States Pecan Field Station.—Located near railroad station at Philema, which is 15 miles northeast of Albany, on the Georgia Southwestern & Gulf Railroad. Office located at 1503 North Jefferson Street, Albany.

*Horticultural Crops and Diseases.*—Nut-culture investigations. H. L. Crane, horticulturist, in charge.

### Savannah

Barbour Lathrop Plant Introduction Garden.—Twelve miles southwest of courthouse on Coastal Highway (or Ogeechee Road). May be reached from Savannah by motor bus going to Brunswick and Jacksonville. Telephone, long distance, Bamboo Garden.

*Foreign Plant Introduction.*—Bamboo investigations and testing of plant introductions. D. A. Bisset, chief scientific aid, acting in charge.

### Tifton

*Georgia Coastal Plain Experiment Station (co-operative investigations).*—Northwest of Tifton, which is on the Atlanta, Birmingham & Atlantic and Atlantic Coast Line Railroads. Take State Highway No. 7 for 1½ miles, then turn to road on left. Telephone, 9.

*Cereal Crops and Diseases.*—Corn investigations, with special reference to breeding for

yield and resistance to damage by insects and diseases. H. S. Garrison, assistant agronomist, in charge.

*Forage Crops and Diseases.*—Investigations of grasses and legumes adapted to the Southeastern States, including methods of pasture management and fertilization; and the value of cover and green-manure crops. J. L. Stephens, agent, in charge.

*Tobacco and Plant Nutrition.*—Crop rotation studies; tobacco fertilizer and varietal tests; effect of length of day on plants. J. M. Carr, agent, in charge.

Tobacco disease investigations. J. G. Gaines, assistant pathologist, in charge.

## HAITI

### Bayeux

*Experiments with Hevea, Castilla, and other rubber trees, conducted by Division of Cotton, Rubber, and Other Tropical Plants.* Communications regarding the rubber-plant investigations in Haiti should be addressed to F. C. Baker, senior technologist, P. O. Box A-39, Port au Prince, Haiti. Transportation arrangements may be made in advance by writing Mr. Baker.

### Port au Prince

*Thor Experiment Station.*—Near Port au Prince from which point work is conducted at Bayeux and also incidental work at Ennery, St. Michel, and Gonaives, Haiti.

*Cotton, Rubber, and Other Tropical Plants.*—Plantings of Hevea and other rubber-producing plants, including tests of dry-season conditions, with and without irrigation. F. C. Baker, senior technologist, in charge. Address, P. O. Box A-39, Port au Prince, Haiti.

## IDAHO

## Aberdeen

*Aberdeen Substation, State Agricultural Experiment Station (cooperative investigations).*—Three-fourths mile from Union Pacific Railroad station. May be reached by conveyance or on foot; transportation arrangements may be made by telephoning substation.

*Cereal Crops and Diseases.*—Agronomic experiments and genetic, physiological, and chemical studies with cereals under irrigation, particularly barley, oats, and spring wheat. Harland Stevens, agent, in charge. Telephone, Y-11.

*Forage Crops and Diseases.*—See production studies with clovers. Work directed from Washington, D. C.; local supervision by A. E. McClymonds, collaborator and superintendent of the substation.

## Moscow

*State Agricultural Experiment Station and College of Agriculture (cooperative investigations).*—About one-half mile from railroad station at Moscow, which is on the lines of the Great Northern and Northern Pacific Railway, and the Union Pacific system. May be reached by automobile or on foot; transportation arrangements may be made by telephoning station.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. E. E. Hubert, collaborator. May be reached at School of Forestry.

*Cereal Crops and Diseases.*—Agronomic experiments with wheat, oats, and barley, including varietal comparisons, breeding and genetic studies. V. H. Florell, associate agronomist, in charge. Telephone, 8387.

Laboratory, field, and greenhouse studies on stripe rust of cereals and grasses. W. M. Bever, junior pathologist, in charge. Telephone, 187-R.

## Twin Falls

*United States Sugar Plant Field Laboratory.*—

In new Entomology Building, 1 mile north of post office on Blue Lake Boulevard. Transportation arrangements may be made by telephoning 1082. Twin Falls is on the Union Pacific system, but may also be reached by motor bus from Minidoka, Pocatello, and Jerome.

*Horticultural Crops and Diseases.*—Breeding of beans with specific reference to resistance to disease and to improved table quality. Work directed from Washington, D. C., by E. S. Schultz, senior pathologist; W. W. Tracy, associate agronomist, in local charge.

*Sugar Plant Investigations.*—Ecological investigations of weed hosts in relation to curly top; pathological investigations of curly top of sugar beets. R. L. Piemeisel, physiologist, in charge.

Agronomic investigations on sugar-beet production in relation to curly-top disease. C. E. Cormany, associate agronomist, in charge.

## ILLINOIS

## Bloomington

*United States Cereal Pathology Field Experiments (cooperation with Funk Bros. Seed Co. and State Agricultural Experiment Station).*—

Office about one-fourth mile west of the Chicago & Alton Railroad station, or three-fourths mile west of the Cleveland, Cincinnati, Chicago & St. Louis (Big Four) station. May be reached by street car; transportation arrangements may be made in advance by communicating with J. R. Holbert. Experiment fields 10 miles from town. Telephone, 173.

*Cereal Crops and Diseases.*—Investigations of root, stalk, and ear rots of corn, including studies of infection, soil infestation, and control methods, principally by physical selection of seed ears in the field and on the germinator, by breeding, by seed treatments, and by soil

treatments. J. R. Holbert, senior agronomist, in charge.

### Chicago

*United States Market Pathology Laboratory.*—Office, 1425 South Racine Avenue. Take Blue Island street car going west at Clark and Adams Streets, get off at Racine Avenue, and walk one-half block south. Telephone, Roosevelt 4690. Laboratory located in department of botany, University of Chicago. Take car marked "Cottage Grove" going south. (Cars marked "No. 1" turn at Fifty-fifth Street; others give transfers to Fifty-fifth Street.) Get off at University Avenue and walk two blocks south. Telephone, Midway 0800, local 208-2.

*Horticultural Crops and Diseases.*—Investigation of fruits and vegetables in storage, market, and transit, and the interpretation, of their significance as causes of spoilage. (In cooperation with Bureau of Agricultural Economics.) G. B. Ramsey, senior pathologist, in charge.

### Urbana

*Barberry Eradication Field Office.*—In Post Office Building, about four blocks from Cleveland, Cincinnati, Chicago & St. Louis Railway station.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation with State College of Agriculture and State department of agriculture.) R. W. Bills, agent, in charge.

*State Agricultural Experiment Station (cooperative investigations).*—About 1½ miles from railroad station at Urbana, which is on the Cleveland, Cincinnati, Chicago & St. Louis (Big Four) Railway. May be reached by bus or street car from railroad station at either Urbana or Champaign.

*Cereal Crops and Diseases.*—Effect of various crop rotations and fertilizer treatments on the

development of root, stalk, and ear rots of corn grown from treated or untreated seed of different qualities and strains. Supervision by J. R. Holbert, senior agronomist, from Bloomington; local supervision by W. L. Burlison and Benjamin Koehler, of the experiment station.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by W. L. Burlison, head of the agronomy department.

*Horticultural Crops and Diseases.*—Cultural growth, and varietal studies of the Jerusalem artichoke. W. L. Burlison, head of the agronomy department, in local charge.

## INDIANA

### La Fayette

*Agricultural Experiment Station and College of Agriculture, Purdue University (cooperative investigations).*—At West La Fayette, about 1½ miles from La Fayette. May be reached by street car from La Fayette.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. W. E. Leer, agent, in charge. Office in Experiment Station Annex.

*Cereal Crops and Diseases.*—Pathologic, physiologic, chemical, and genetic studies of root, stalk, and ear rots of field and sweet corn, especially relating to accumulations of iron and aluminum, and remedial soil treatments. J. F. Trost, associate pathologist, in charge. Telephone, 2329.

Research on leaf rusts of wheat, rye, barley, and corn, including determinations of alternate hosts, physiologic forms, and host resistance, and breeding for rust resistance. R. M. Caldwell, associate pathologist, in charge. Telephone, 2187.

*Forage Crops and Diseases.*—Study of clover diseases, especially clover mildew. Work di-

rected from Washington, D. C.; local supervision by M. W. Gardner, collaborator and chief of the botany department.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on tomatoes. J. H. MacGillivray, collaborator, in charge.

*Cooperative Seed-Testing Laboratory.*—At Agricultural Experiment Station, Purdue University. Telephone.

*Seed Investigations.*—Testing agricultural seeds for mechanical purity and germination; identification of seeds of cultivated plants and weeds; testing seeds submitted in connection with enforcement of Federal seed act. H. R. Kraybill, collaborator, in charge; Regina B. Schulte, assistant botanist.

### South Bend

*Truck-crop experiments*, particularly adaptation of truck crops to muck soils, conducted by *Division of Horticultural Crops and Diseases*. Experiments located on property of W. C. Steenburg, Route 1, Box 72-C, South Bend. Experimental plots may be reached by automobile or by New York Central Railroad from South Bend to Steenburg. (Poor train service.) Work directed from Washington, D. C.; local supervision by Mr. Steenburg. Telephone, County 17-F-3.

### Vincennes

*United States Fruit Disease Field Laboratory.*—1237 Fairgrounds Avenue, one block from Union Station at Vincennes, which may be reached by the Baltimore & Ohio, Cleveland, Cincinnati, Chicago & St. Louis (Big Four), Chicago & Eastern Illinois, or Pennsylvania Railroads. Take street car from station. Telephone.

*Horticultural Crops and Diseases.*—Peach and apple disease-control experiments. Leslie Pierce, principal scientific aid, in charge.

## IOWA

## Ames

*State Agricultural Experiment Station and College of Agriculture (cooperative investigations).*—About 1 mile west of railroad station; may be reached by bus, interurban railway, or street car.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State Department of Agriculture.) D. R. Shepherd, agent, in charge. Office in Morrill Hall.

*Cereal Crops and Diseases.*—Breeding spring oat varieties by pure-line selection. Experiments carried on at agronomy farm, about 2 miles southwest of town. L. C. Burnett, agent and chief in cereal breeding, in charge. In Old Agricultural Hall. Telephone, 985-J.

Extensive corn-breeding experiments and varietal comparisons. M. T. Jenkins and A. A. Bryan, associate agronomists, in charge. In Hall of Agriculture.

Studies in crown rust of oats in the laboratory, greenhouse, and field. H. C. Murphy, assistant pathologist, in charge. In Old Agricultural Hall. Telephone, 260-W.

*Forage Crops and Diseases.*—Investigations of regional strains and varieties of red clover, soybeans, and alfalfa. F. S. Wilkins, agent, in charge.

*Horticultural Crops and Diseases.*—Potato breeding and seed improvement work. A. T. Erwin, collaborator, in charge.

## KANSAS

## Colby

*Colby Branch Station, State Agricultural Experiment Station (cooperative investigations).*—One mile west of Colby on main road.



Colby is on the Chicago, Rock Island & Pacific Railway and Union Pacific System. Transportation arrangements may be made by telephoning E. H. Coles. Telephone 131.

*Cereal Crops and Diseases.*—Varietal comparisons of wheat; corn breeding and varietal testing. Local supervision by E. H. Coles, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production. J. B. Kuska, associate agronomist, in charge.

### Garden City

*Garden City Branch Station, State Agricultural Experiment Station (cooperative investigations).*—About 4 miles northeast of Garden City, which is on the Atchison, Topeka & Santa Fe Railway. Transportation arrangements may be made by telephoning F. A. Wagner, the superintendent. Telephone, 32-F-4.

*Dry Land Agriculture.*—Dry-land crop rotations and production. R. L. Von Trebra, agent, in charge. Telephone, 32-F-11.

### Hays

*Fort Hays Branch Station, State Agricultural Experiment Station (cooperative investigations).*—About one-half mile south of Hays, which is on the Union Pacific system. May be reached by automobile or transportation may be arranged by telephoning L. C. Aicher, the superintendent. Telephone, 123.

*Cereal Crops and Diseases.*—Agronomic investigations of wheat, oats, barley, corn, and grain sorghums, including varietal comparisons; experiments on rates, dates, and methods of seeding; seed-bed preparations and rotation studies; special tillage experiments for the prevention of winterkilling. A. F. Swanson, associate agronomist, in charge.

*Dry Land Agriculture.*—Dry-land crop rotations and production; use of commercial fer-

tilizers and soil-nitrate studies. A. L. Hallsted, associate agronomist, in charge. Telephone, 20-F-30.

*Forage Crops and Diseases.*—Agronomic investigations of miscellaneous forage crops suitable for dry-land conditions, principally sorghums, alfalfa, grasses, and sweetclover. D. A. Savage, assistant agronomist, in charge.

### Manhattan

*State Agricultural Experiment Station (cooperative investigations).*—About 2 miles northwest of railroad station. Campus may be reached by street car or automobile.

*Cereal Crops and Diseases.*—Agronomic investigations of wheat and oats, especially breeding and genetic studies, including experiments in breeding wheat for winter hardiness, early maturity, stiffness of straw, and yield; breeding oats for disease resistance and yield. J. H. Parker, agronomist, in charge. In Agronomy Building. Telephone, 2394.

Agronomic investigations of corn, with special emphasis on breeding and genetic studies. A. M. Brunson, agronomist, in charge. In Agronomy Building. Telephone, 2394.

Research on leaf rust of wheat, including special studies with the different physiologic forms, the relative susceptibility of the various wheat varieties to each of these forms, and the inheritance of resistance in wheat to leaf rust. C. O. Johnston, associate pathologist, in charge. In botany department. Telephone, 37349.

Research on foot rots of cereals, including extensive greenhouse and field experiments to determine the host range and the relative susceptibility of wheat varieties. Hurley Fellows, associate pathologist, in charge. In botany department. Telephone, 37349.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by R. I. Throckmorton, head of agronomy department.

*Forage Crops and Diseases.*—Variety and strain tests of alfalfa, including a study of the causes of alfalfa failure and selection and breeding of wilt-resistant strains. C. O. Grandfield, assistant agronomist, in charge.

## KENTUCKY

### Lexington

*State Agricultural Experiment Station (cooperative investigations).*—Located on the edge of the city, and may be reached by street car or automobile.

*Forage Crops and Diseases.*—Experiments to determine the best red-clover types for the southern part of the clover area; selection of adapted strains, and a study of the best means of propagating such strains and encouraging their general use. Work directed from Washington, D. C.; local supervision by E. N. Fergus, associate professor of farm crops.

## LOUISIANA

### Baton Rouge

*State Agricultural Experiment Station (cooperative investigations).*—Two and one-half miles south of Baton Rouge; may be reached by bus.

*Cereal Crops and Diseases.*—Agronomic experiments with corn, including varietal comparisons, breeding experiments, and experiments on the relation of husk characters to damage by weevils and corn earworms. H. F. Stoneberg, assistant agronomist, in charge. Telephone, 3452.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on carrots and beets. J. C. Miller, collaborator, in charge.

Seed-potato improvement work. J. C. Miller, collaborator, in charge.

*Citrus Canker Eradication Field Office.*—State Department of Agriculture. Located in State Capitol.

*Citrus Canker Eradication.*—Direction of local activities in the eradication of citrus canker in Louisiana. W. E. Anderson, collaborator and State entomologist, in charge.

### Crowley

*Rice Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—One mile west of Crowley (Southern Pacific Railroad) on a good road. Transportation arrangements may be made by telephoning the station superintendent, calling 196.

*Cereal Crops and Diseases.*—Introduction and comparison of rice varieties from foreign countries; botanical and hybridization studies; cultural, fertilizer, irrigation, and rotation experiments. J. M. Jenkins, associate agronomist, in charge.

### Houma

*United States Sugar Plant Field Station.*—On Southdown Plantation, at end of Lafayette Street. Houma is on the Southern Pacific Railroad, but the best way to reach the station is to take bus at Canal and Rampart Streets, New Orleans.

*Horticultural Crops and Diseases.*—Tuber index and seedling potato studies. J. C. Miller, collaborator, in charge.

*Sugar Plant Investigations.*—Investigations of sugarcane diseases and varietal and agronomic problems. George Arceneaux, agent, in charge.

### Jeanerette

*Iberia Livestock Experiment Station (cooperative investigations).*—Four miles west of Jeanerette (Missouri Pacific and Southern

Pacific Railroads), on the main highway from Jeanerette to New Iberia. May be reached by bus from either place.

*Forage Crops and Diseases.*—Introduction and testing of forage crops; pasture investigations, including grazing experiments and yield studies on small plots; soybean variety tests and breeding. (Cooperation with Bureaus of Animal Industry and Dairy Industry.) J. B. Thompson, agronomist, in charge.

### New Orleans

*United States Forest Pathology Field Laboratory.*—Located at Southern Forest Experiment Station, 600 Stern Building, 348 Baronne Street. Telephone, Raymond 1304 or 1305.

*Forest Pathology.*—Investigations of diseases of forest trees and forest products, in cooperation with Forest Service. P. V. Siggers, associate pathologist, in charge.

### Robson

*United States Pecan Field Station.*—Located 14 miles southeast of courthouse on west side of Louisiana Purchase Highway (Harts Island Road), one-fourth mile south of the post office at Robson, which is on the Texas & Pacific Railway. Office and laboratory located in room 606, Courthouse, Shreveport.

*Horticultural Crops and Diseases.*—Nut-culture investigations. J. L. Pelham, associate pomologist, in charge.

### Shreveport

*United States Pecan Field Laboratory.*—Office and laboratory located in room 606, Courthouse. Telephone 2-5023. Field investigations conducted at Robson.

*Horticultural Crops and Diseases.*—Studies on influence of leaf area on fruit setting, size and filling of nuts; orchard management, cultiva-

tion, fertilization, and pruning. B. F. Sitton, associate pomologist, in charge.

Nut-disease investigations. J. R. Cole, associate pathologist, in charge.

## MAINE

### Augusta

*State Forest Service.*—In statehouse; may be reached by street car. Telephone, 1200. Augusta is on the Maine Central Railroad.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. W. O. Frost, associate pathologist and State leader, in charge. May be reached at office of forest commissioner.

### Presque Isle

*Aroostook Farm, State Agricultural Experiment Station (cooperative investigations).*—One and three-fourths miles south of railroad station at Presque Isle, which is on the Bangor & Aroostook Railroad and Canadian Pacific lines in Maine. Transportation arrangements may be made by telephoning P. M. Lombard at Aroostook farm (154-12). Government office closed from October 15 to March 31.

*Horticultural Crops and Diseases.*—Cultural investigations of potatoes. P. M. Lombard, associate horticulturist, in charge.

Potato-breeding studies. C. F. Clark, associate horticulturist, in charge.

*United States Potato Disease Laboratory.*—South of normal school; about one-half mile from Presque Isle House. Occupied only during summer growing season. Mr. Schultz may be reached by telephoning the laboratory (154-4) or the Aroostook farm (154-2).

*Horticultural Crops and Diseases.*—Investigations of potato diseases and experiments with control measures. E. S. Schultz, senior pathologist, in charge.

## MARYLAND

## Beltsville

*Animal Husbandry Experiment Farm.*—Two miles from Beltsville. May be reached by suburban trolley or by bus from the Department of Agriculture at Washington.

*Forage Crops and Diseases.*—Pasture investigations, including grazing tests with beef cattle in a comparison of methods of pasture management; yield and palatability studies of various pasture plants in pure stands; and experiments with fertilizers on pastures, including their use in the renovation of an old pasture. (Cooperation with Bureau of Animal Industry.) M. A. Hein, assistant agronomist, in charge.

Chemical studies of pasture plants. H. L. Wilkins, assistant chemist, in charge.

*Foreign Plant Introduction.*—Protection and propagation of plants under detention and quarantine. A. J. Bruman, assistant pathologist, in charge.

*Dairy Experiment Farm.*—One and one-half miles from Beltsville. May be reached by suburban trolley or by bus from the Department of Agriculture in Washington.

*Forage Crops and Diseases.*—Pasture investigations, including a comparison of the Hohenheim or German system of rotation grazing with the ordinary method of continuous grazing. (Cooperation with Bureau of Dairy Industry.) M. A. Hein, assistant agronomist, in charge.

## Bethesda

*United States Citrus Detention Greenhouse.*—May be reached by street car or automobile from Washington; or transportation arrangements may be made by communicating with Eugene May, greenhouse No. 3, Fourteenth Street and Constitution Avenue, NW., Washington, D. C. Telephone, National 4645, branch 458.

*Horticultural Crops and Diseases.*—Experimental propagation of citrus plants under aseptic methods. Work directed from Washington, D. C.

### College Park

*State Agricultural Experiment Station (cooperative investigations).*—Eight miles northeast of Washington, on the Washington-Baltimore Boulevard; also reached by street car from Washington.

*Horticultural Crops and Diseases.*—Nursery-stock investigations; propagation and rootstock studies. F. E. Gardner, senior pomologist, in charge.

Apple stock testing; testing pears for blight resistance. A. L. Schrader, collaborator, in charge, in cooperation with F. E. Gardner, senior pomologist.

Vegetable crop production investigations. Work directed by V. R. Boswell, senior horticulturist, from Washington, D. C.; T. H. White, collaborator, in local charge. Experimental plots located 3 miles from College Park, near Beltsville.

### Glennedale

*United States Plant Field Station.*—Sixteen miles from Washington, D. C., on Washington, Baltimore & Annapolis Electric Railroad. In going by electric car, get off at Bell station. May also be reached by Pennsylvania Railroad to Glennedale, then by automobile or on foot  $1\frac{1}{4}$  miles south; or by automobile from Washington via Washington-Baltimore Boulevard to Bladensburg, Md., turning right on the Defense Highway and continuing about 8 miles, taking the first turn to the left after crossing the second bridge on the Defense Highway (over W. B. & A. R. R.), and continuing one-half mile north to the plant field station. Arrangements for transportation from Glennedale may be made by telephoning the superintendent. Telephone, Bowie 64-M.



*Foreign Plant Introduction.*—Propagation, testing, and detention of new plant introductions. H. A. Gunning, associate horticulturist and superintendent, in charge.

*Forest Pathology.*—Chestnut-breeding and chestnut-blight investigations. G. F. Gravatt, senior pathologist, in charge.

*Horticultural Crops and Diseases.*—Fruit-production investigations, including breeding and culture of small fruits. J. R. Magness, principal pomologist, in charge.

#### Lanham

*Maize-heredity studies*, conducted by *Division of Genetics and Biophysics*. Experiments located about 1 mile east of Pennsylvania Railroad station at Lanham, which is about 8 miles from Washington on the Defense Highway. Work directed from Washington, D. C.; J. H. Kempton, botanist, in charge.

#### Upper Marlboro

*Branch Station, State Agricultural Experiment Station (cooperative investigations).*—One-fourth mile from center of town, on county fair grounds. Mr. Brown is at the station from March to October. No telephone.

*Tobacco and Plant Nutrition.*—Crop-rotation studies; tobacco fertilizer and varietal tests; technical studies in nutrition of the tobacco plant. D. E. Brown, chief scientific aid, in charge.

### MASSACHUSETTS

#### Amherst

*State Agricultural Experiment Station (cooperative investigations).*—About 1 mile north of center of Amherst. Take car marked "North Amherst" at Amherst, and get off at the experiment station. Telephone, 126.

*Forage Crops and Diseases.*—Source of seed tests with alfalfa and red clover; tests of va-

ieties and strains of soybeans for hay and seed under New England conditions; variety and source of seed trials with sweetclover, vetches, and peas. Work directed from Washington, D. C.; local supervision by A. B. Beaumont, agronomist of the experiment station.

*Horticultural Crops and Diseases.*—Investigations of cranberry diseases, especially false blossom and fruit rots; also investigations of diseases of strawberries and blueberries. H. F. Bergman, senior pathologist, in charge.

*Tobacco and Plant Nutrition.*—Laboratory investigations on diseases of tobacco. C. V. Kightlinger, agent, in charge. In agronomy department.

*United States Forest Pathology Field Laboratory.*—On campus of Massachusetts Agricultural College, about 1 mile from Boston & Maine Railroad station. Take street car to college. No direct telephone, but laboratory may be reached by calling 891-W.

*Forest Pathology.*—Investigations of forest-tree diseases, in cooperation with Northeastern Forest Experiment Station. Perley Spaulding, senior pathologist, in charge.

### Boston

*Blister Rust Control Field Office.*—Room 403, Appraisers' Stores Building, 408 Atlantic Avenue. About five minutes' walk northeast on Atlantic Avenue from South Station; or may be reached by elevated trains marked "North or South Station via Atlantic Avenue," getting off at Rowe's Wharf station and walking one block southwest. Telephone, Hancock 5230.

*Blister Rust Control.*—Field direction of cooperative blister rust control activities in the Northeastern and Lake States. E. C. Filler, senior pathologist, in charge.

*State Department of Agriculture.*—Room 136, Statehouse. Telephone, Haymarket 4600 (Agriculture).

*Blister Rust Control.*—Comparative control of white-pine blister rust. C. C. Perry, agent and State leader, in charge. May be reached at office of commissioner of agriculture.

### East Wareham

*Cranberry Substation, State Agricultural Experiment Station (cooperative investigations).*—Mail address, East Wareham; railroad station, Onset (New York, New Haven & Hartford Railroad), 51 miles southeast of Boston. From New York most conveniently reached by Fall River boat and New York, New Haven & Hartford Railroad or by New Bedford boat. Laboratory and bog located about 1 mile from railroad station or post office; go one-half mile north on main road to Agawam garage, where sign directs to "State Bog." Telephone, Wareham 112-3.

*Botany.*—Cooperative testing of blueberry hybrids. H. J. Franklin, of the Massachusetts Agricultural Experiment Station, in charge.

*Horticultural Crops and Diseases.*—Investigations of cranberry diseases, especially false blossom and fruit rots; also investigations of diseases of strawberries and blueberries. H. F. Bergman, senior pathologist, in charge. (Work conducted during summer months only.)

## MICHIGAN

### Augusta

*W. K. Kellogg Demonstration and Experimental Farm, State Agricultural Experiment Station (cooperative investigations).*—Substation is about 8 miles northwest of Augusta, which is about 10 miles from Battle Creek on the Michigan Central Railroad. Visitors to the station can be met at Battle Creek by com-

municating in advance with Mr. Dorrance, or C. M. McCrary, the manager, route 1, Augusta.

*Forage Crops and Diseases.*—Pasture investigations, including experiments in pasture management, the renovation of old pastures, and comparison of different pasture plants and different fertilizers. A. B. Dorrance, assistant agronomist, in charge.

### East Lansing

*State Agricultural College and Agricultural Experiment Station (cooperative investigations).*—East Lansing is about 2½ miles from Lansing. Take street car in Lansing marked "College," going east on Michigan Avenue to end of line. College campus is about two blocks from there.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State Department of Agriculture.) F. B. Powers, agent, in charge. Office in Botany Building.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on tomatoes. H. L. Seaton, collaborator, in charge.

Potato-breeding and seed-improvement investigations. H. C. Moore, collaborator, in charge.

*Sugar Plant Investigations.*—Cultural methods, crop rotations, effect of soils on yield and quality of sugar beets. J. G. Lill, associate agronomist, in charge. In Agricultural Hall.

Plant breeding and varietal tests with sugar beets. E. E. Down, agent, in charge.

*State Department of Agriculture.*—Bureau of Agricultural Industry. Room 727, new State Office Building, corner of Washtenaw and Walnut Streets, one block west and one block south of the State Capitol. May be reached

from Union Station on cars marked "Wash-tenaw." Telephone, 21121; extension 323.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. E. C. Mandenburg, collaborator and State leader, in charge.

### Lake City

*Lake City Potato Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—About 1½ miles southeast of Lake City (Pennsylvania Railroad).

*Horticultural Crops and Diseases.*—Seedling potato and improvement investigations. H. C. Moore, collaborator, in charge.

### South Haven

*South Haven Horticultural Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—One-half mile from railroad station at South Haven, which may be reached by the Michigan Central and Pere Marquette Railroads. Telephone, 106.

*Horticultural Crops and Diseases.*—Nursery stock, nut culture, and rosaceous-fruit breeding investigations. Stanley Johnston, agent and superintendent, in charge.

## MINNESOTA

### Crookston

*Northwest Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—About 2 miles from Crookston (Great Northern and Northern Pacific Railways). May also be reached by bus from Fargo, N. Dak. Telephone the station regarding transportation.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by E. R. Clark, agronomist of the station.

### Morris

*West Central Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—About 1½ miles from Morris, which is on the Great Northern Railway.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by R. O. Bridford, agronomist of the station.

### St. Paul

*State Agricultural Experiment Station and College of Agriculture (cooperative investigations).*—University farm is about 4 or 5 miles from either Minneapolis or St. Paul. Take street car marked "Como-Harriet," get off at Doswell Avenue, and walk east one-third mile, or get off at Carter Avenue and walk north one-third mile. Telephone, Nestor 2881.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State department of agriculture.) L. W. Melander, associate pathologist, in charge. Office in plant pathology department.

*Cereal Crops and Diseases.*—Genetic studies on wheat for rust resistance and winter hardiness. E. R. Ausemus, associate agronomist, in charge. In agronomy and plant genetics department.

Extensive field, greenhouse, and laboratory studies on stem rust of wheat, oats, barley, rye, and related grasses, including life history, hybridization, and genetic studies of the causal organism; the investigation of physiologic specialization of stem rust; studies on the morphology and physiology of cereals with reference to their susceptibility to stem rust; and studies on the epidemiology of stem rust, including development of rust in the Southern States and in Mexico, possible movement of

spores northward by surface and higher air currents, spread of rust to grains and grasses from infected barberries, the progress of epidemics once started on grains, and the establishment and direction of more than 50 uniform cooperative rust-differentiating nurseries in the United States and Canada. Life history and epidemiology studies of flax rust. M. N. Levine, pathologist, in charge. In plant pathology department.

Cereal pathology garden for testing the resistance of different varieties, pure lines, and hybrid strains of cereals to different physiologic forms of the various fungi causing cereal diseases. R. H. Bamberg, agent, in charge.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by A. C. Army, professor of agronomy.

*Horticultural Crops and Diseases.*—Potato breeding and seed improvement work. F. A. Krantz, collaborator, in charge.

Studies in connection with vegetable variety type-book work on carrots. F. A. Krantz, collaborator, in charge.

Cultural, growth, and varietal studies of Jerusalem artichoke. F. A. Krantz, collaborator, in charge.

Potato-disease investigations. J. G. Leach, associate professor of plant pathology and botany, in charge.

*Sugar Plant Investigations.*—Agronomic and genetic studies on sugar beets. F. R. Immer, associate geneticist, in charge.

Pathological investigations on sugar-beet root rot and other diseases. E. L. LeClerg, assistant pathologist, in charge.

*State Department of Conservation, Office of Commissioner of Forestry and Fire Prevention.*—Old State Capitol.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. L. B. Ritter, junior forester and State leader, in charge. May be reached at office of commissioner of forestry and fire prevention.

## MISSISSIPPI

### A. and M. College

*Citrus Canker Eradication Field Office.*—Agricultural and Mechanical College. A. and M. College is on the Mobile & Ohio Railroad.

*Citrus Canker Eradication.*—Direction of local activities in the eradication of citrus canker in Mississippi. Clay Lyle, agent, acting in charge.

### Poplarville

*South Mississippi Branch Station, State Agricultural Experiment Station (cooperative investigations).*—About one-half mile west of Southern Railway station. Visitors can be met at station.

*Sugar Plant Investigations.*—Tests of sugar-canes for sirup production. J. C. Robert, assistant director of the station, in local charge.

### Stoneville

*Delta Branch Station, State Agricultural Experiment Station (cooperative investigations).*—Located near Stoneville, 1 mile from Leland on Illinois Central Railroad, and 9 miles east of Greenville, which is on the Columbus & Greenville Railway and Illinois Central system, and may be reached by automobile from either place. Telephone W. E. Ayers, assistant director of the station, regarding transportation arrangements.

*Forage Crops and Diseases.*—Investigations of alfalfa diseases; cultural, fertilizer, and varietal tests of alfalfa. P. R. Henson, assistant agronomist, in charge.



### West Point

*United States Forage Crop Field Experiments* (cooperative investigations, *State Agricultural Experiment Station*).—About 5 miles east of West Point on improved highway. West Point may be reached by the Columbus & Greenville and Mobile & Ohio Railroads, or Illinois Central system.

*Forage Crops and Diseases*.—Investigation of alfalfa diseases; cultural, fertilizer, and varietal tests of alfalfa; testing legumes adapted to the South; pasture investigations. T. F. Akers, assistant agronomist, in charge.

## MISSOURI

### Columbia

*State Agricultural Experiment Station* (cooperative investigations).—Within walking distance of the railroad station.

*Cereal Crops and Diseases*.—Investigations on corn culture, breeding, and genetics, including the effects of X-ray and radium treatments on inheritance. L. J. Stadler, senior geneticist, in charge. Telephone, 140.

*Forage Crops and Diseases*.—Studies of systems of grazing; pasture survey in Missouri and adjacent areas. E. M. Brown, agent, in charge. [Work conducted at Sni-A-Bar Ranch, Grain Valley, Mo. (Chicago & Alton Railroad), on main highway between Kansas City and St. Louis, and can be reached by bus from Kansas City. Visitors should make advance arrangements for transportation with Mr. Brown, or James Napier, superintendent of the ranch.]

*Cooperative Seed Testing Laboratory*.—At Agricultural Experiment Station. Telephone.

*Seed Investigations*.—Testing agricultural seeds for mechanical purity and germination; identification of seeds of cultivated plants and weeds; testing seeds submitted in connection

with enforcement of Federal seed act. W. C. Etheridge, collaborator, in charge; Clara Fuhr, assistant botanist.

### Elsberry

*Elsberry Rice Experiment Field (cooperative investigations, State Agricultural Experiment Station).*—About 1½ miles south of Chicago, Burlington & Quincy Railroad station. May be reached by automobile; no street cars.

*Cereal Crops and Diseases.*—Investigations on rice production, including irrigation, fertilizers, varietal comparisons, methods of seeding, breeding, and selection for improvement, and rotation studies. Work directed from Washington, D. C., and Columbia, Mo. B. M. King, agent and assistant professor of field crops, in charge.

### Springfield

*United States Fruit Disease Field Laboratory (Ozark Region).*—Office and laboratory located in Federal Building.

*Horticultural Crops and Diseases.*—Studies in the control of apple and peach diseases. M. A. Smith, associate pathologist, in charge.

## MONTANA

### Bozeman

*State College of Agriculture (cooperative investigations).*—About 2 miles southwest of railroad station. May be reached by bus or on foot.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State Department of Agriculture.) G. C. Mayoue, associate pathologist, in charge of district No. 1 (North Dakota and Montana). Office in botany department.

*Cereal Crops and Diseases.*—Breeding and genetic studies of wheat for quality, disease

resistance, hardiness, and yield. Work directed from Washington, D. C.; local supervision by Clyde McKee, collaborator and head of agronomy department.

### Havre

*Northern Montana Branch Station, State Agricultural Experiment Station (cooperative investigations).*—About 7 miles southwest of Havre, which is on the Great Northern Railway. Transportation arrangements may be made by communicating with G. W. Morgan. Telephone, 12-F-2.

*Cereal Crops and Diseases.*—Nursery and plot studies of adaptation, quality, and disease resistance of wheat. Work directed from Washington, D. C.; local supervision by G. W. Morgan, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production. G. W. Morgan, associate agronomist and superintendent, in charge.

*Forage Crops and Diseases.*—Field tests of forage crops, principally alfalfa, including also sorghums, sweetclover, grasses, root crops, corn, sunflowers for forage and silage, field peas, and grain hays. G. W. Morgan, associate agronomist and superintendent, has local supervision of the work.

### Huntley

*Huntley Field Station.*—Four miles east of railroad station at Huntley, which is on the Northern Pacific and Chicago, Burlington & Quincy Railroads. Telephone Mr. Hansen regarding instructions for reaching the station or for transportation arrangements. Telephone, Home Telephone Co., 2-2; Riverside Telephone Co., 2-1.

*Dry Land Agriculture.*—Dry-land crop rotations and production. A. E. Seamans, associate agronomist, in charge.

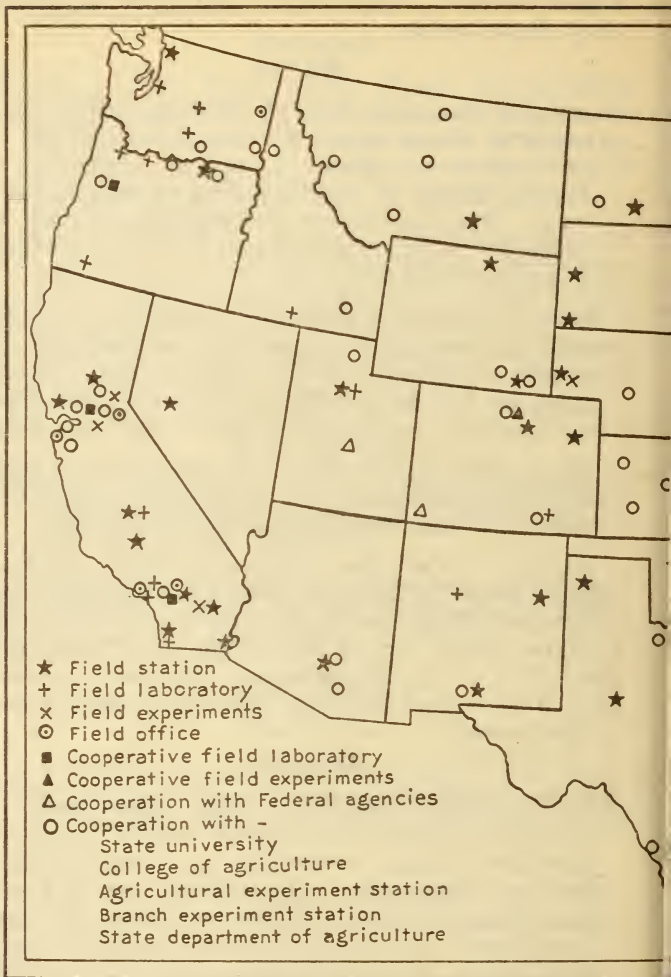
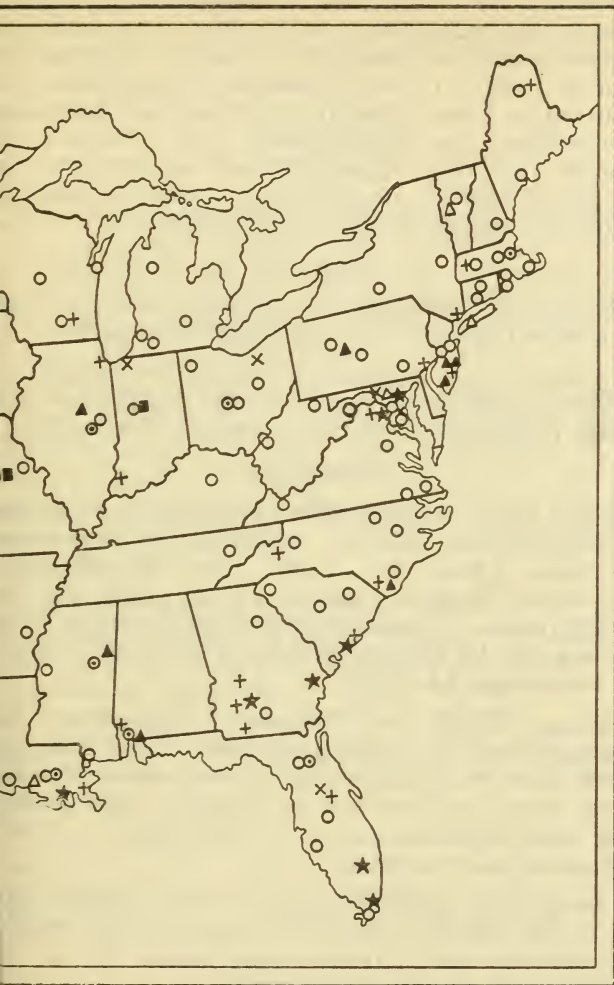


FIGURE 1.—Outline map of the United States showing P



Character of the field activities of the Bureau of



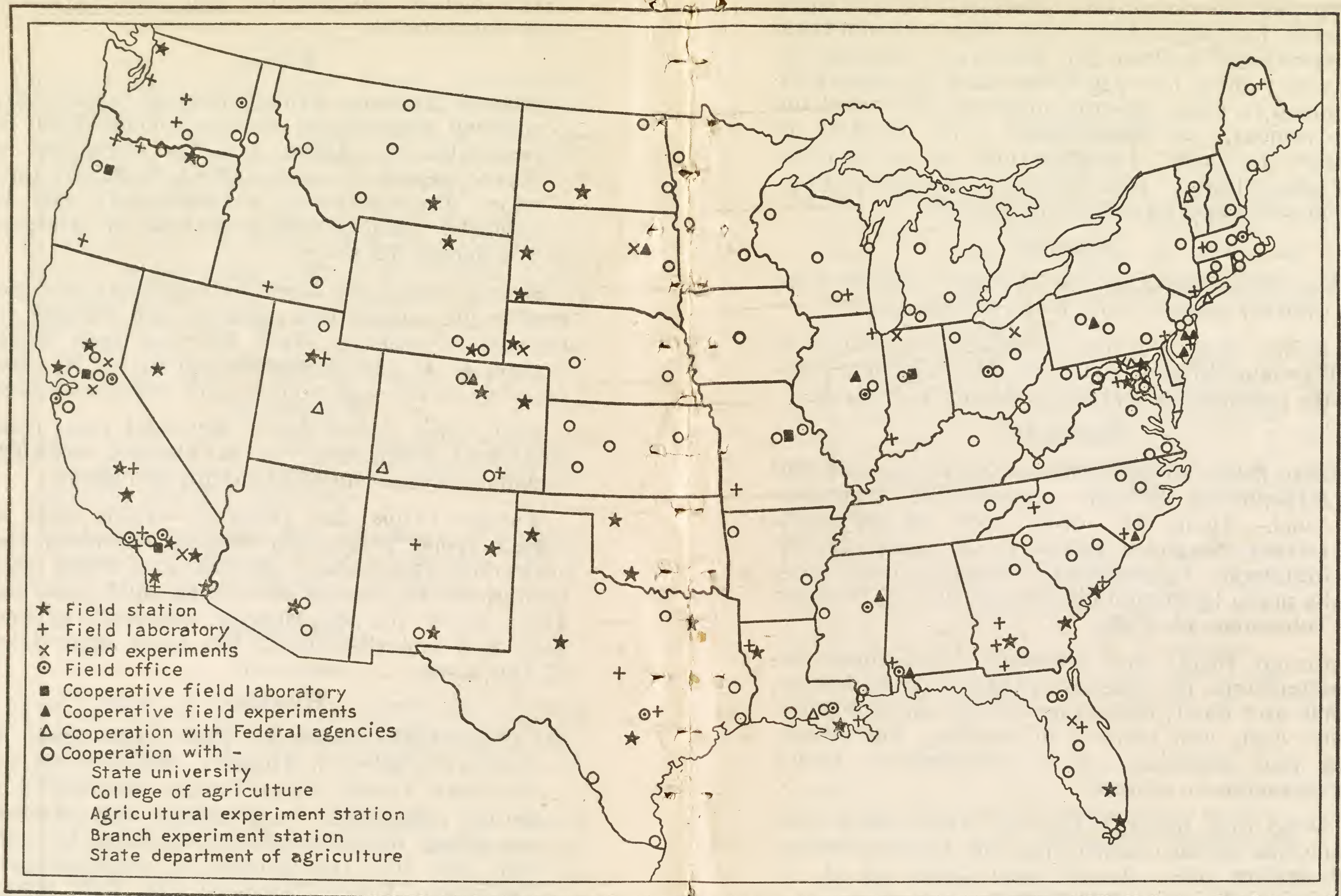


FIGURE 1.—Outline map of the United States showing location and character of the field activities of the Bureau of Plant Industry

*Western Irrigation Agriculture.*—Irrigation, rotation and tillage experiments, varietal tests; livestock investigations and pasturing experiments in cooperation with State Agricultural Experiment Station and Bureau of Animal Industry; dairy investigations, with particular attention to grass pasture mixtures and herd improvement, in cooperation with Bureau of Dairy Industry; investigations in reclamation of alkali lands. Dan Hansen, associate agronomist and superintendent, in charge.

### Missoula

*State Department of Agriculture.*—Blister Rust Control office in new Federal Building.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. C. H. Johnson, associate pathologist and State leader, in charge.

### Moccasin

*Judith Basin Branch Station, State Agricultural Experiment Station (cooperative investigations.*—About 1½ miles west of Moccasin (Great Northern Railway) on main graded highway. Transportation arrangements may be made by communicating with J. E. Norton. Telephone 14-F-30.

*Cereal Crops and Diseases.*—Agronomic investigations of cereals (wheat, oats, barley, corn, and flax), including varietal comparisons; rate, date, and method of seeding; and breeding and selection. J. L. Sutherland, junior agronomist, in charge.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by J. L. Sutherland, junior agronomist.

*Dry Land Agriculture.*—Dry-land crop rotations and production. J. E. Norton, agent and superintendent, in charge.



*Forage Crops and Diseases.*—Field tests of forage crops, principally alfalfa, including also sorghums, sweetclover, grasses, root crops, corn, and sunflowers for forage and silage, field peas, and grain hays. H. E. Tower, agent, has local supervision of the work.

## NEBRASKA

### Lincoln

*State College of Agriculture (cooperative investigations).*—Located at University Farm, about 3 miles northeast of center of city. May be reached by taking bus marked "Agricultural College" or "University Place" at Eleventh and O Streets.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. R. O. Bulger, agent, in charge of district No. 2 (South Dakota and eastern Nebraska); M. E. Yount, agent, in local charge. Office in plant pathology department.

*Cereal Crops and Diseases.*—Agronomic investigations of cereals, particularly wheat, including varietal comparisons, breeding and genetic studies, and studies on winter hardiness. C. A. Suneson, junior agronomist, in charge.

Limited cultural experiments with corn. T. A. Kiesselbach, agent and professor of agronomy, in charge.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by T. A. Kiesselbach, agent and professor of agronomy.

*Forage Crops and Diseases.*—Alfalfa investigations; winter-hardiness investigations, including studies of relative susceptibility of alfalfa varieties to cold, the development of a simple but accurate method of testing new strains for cold resistance, and the fundamental problems of winter hardiness; selection, breeding, and

nursery tests of alfalfa, including a study of alfalfa varieties and origins; and a study of the interrelations between alfalfa productivity and the moisture supply. H. M. Tysdal, associate agronomist, in charge.

### Mitchell

**Scotts Bluff Field Station.**—Five miles east of Chicago, Burlington & Quincy Railroad station. Telephone J. A. Holden regarding instructions for reaching the station or for transportation arrangements.

*Western Irrigation Agriculture.*—Irrigated rotation and tillage experiments, varietal tests of alfalfa and other crops, experiments with potatoes and investigations relating to the control of potato diseases, pasturing experiments and livestock investigations, including dairying and lamb feeding. J. A. Holden, associate agronomist and superintendent, in charge.

### North Platte

*North Platte Substation, State Agricultural Experiment Station (cooperative investigations).*—About 3 miles south of Union Pacific Railroad station. Transportation arrangements may be made by communicating with W. P. Snyder, the superintendent. Telephone, 499.

*Cereal Crops and Diseases.*—Agronomic and breeding experiments with corn and small grain. N. E. Jodon, junior agronomist, in charge. Telephone, 449.

*Dry Land Agriculture.*—Dry-land crop rotations and production. L. L. Zook, associate agronomist, in charge. Telephone, 22-F-21.

### Scottsbluff

*United States Sugar Plant Field Experiments.*—Office in Post Office Building at Scottsbluff, which is on the Chicago, Burlington & Quincy Railroad.

*Sugar Plant Investigations.*—Agronomic investigations with sugar beets. Experiments are conducted in vicinity of Scottsbluff, Nebr., Torrington, Wyo., and Belle Fourche, S. Dak. S. B. Nuckols, associate agronomist, in charge.

## NEVADA

### Fallon

*Newlands Field Station.*—One mile south of Southern Pacific Railroad station. Telephone E. W. Knight regarding instructions for reaching the station or for transportation arrangements.

*Western Irrigation Agriculture.*—Varietal tests of field crops under irrigation, especially grain; tests of horticultural crops; field and laboratory experiments in the reclamation of alkali lands; and livestock investigations, particularly dairying, in cooperation with State Agricultural Experiment Station. E. W. Knight, assistant agronomist and superintendent, in charge.

## NEW HAMPSHIRE

### Concord

*State Forestry Department.*—Room 304, Patriot Building, corner of Maine and Park Streets, about five minutes' walk from railroad station. May be reached by telephone between 8.30 a. m. and 5 p. m., calling No. 800; at all other times No. 802.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. L. E. Newman, agent and State leader, in charge. May be reached at office of State forester. Residence telephone, 3148.

## NEW JERSEY

### New Brunswick

*State Agricultural Experiment Station (cooperative investigations).*—One mile south of Pennsylvania Railroad station.

*Horticultural Crops and Diseases.*—Breeding and selection of eggplant with special reference to disease resistance. C. M. Haenseler, collaborator, in charge.

### Toms River

*Blueberry investigations*, including growing and bringing to maturity, for purposes of observation and selection, blueberry hybrids produced by the United States Department of Agriculture. Work conducted by *Division of Botany* on property of Double Trouble Co., 5 miles southwest of Toms River, which is most easily reached from Philadelphia via the Pennsylvania Railroad and from New York via Central Railroad of New Jersey. May be reached by automobile from Toms River. H. B. Scammell, in charge. Telephone, Toms River 40-J.

*United States Cranberry and Blueberry Disease Field Laboratory.*—On property of Double Trouble Co., 5 miles southwest of Toms River, which is most easily reached from Philadelphia via the Pennsylvania Railroad and from New York via Central Railroad of New Jersey. The laboratory may be reached by automobile from Toms River. Telephone, Toms River 40-J.

*Horticultural Crops and Diseases.*—Investigations of diseases of cranberries and blueberries. R. B. Wilcox, associate pathologist, in charge.

### Trenton

*State Department of Agriculture.*—Bureau of Statistics and Inspection. Room 612, First Mechanics National Bank Building, State and Warren Streets. May be reached on any street car going west at Pennsylvania Railroad station.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. P. B. Mott, agent and State leader, in charge.

### Weymouth

*Blueberry investigations*, including growing and bringing to maturity, for purposes of observation and selection, blueberry hybrids produced by the United States Department of Agriculture. Work conducted by *Division of Botany* on property of The Atlantic Co. for the Culture of Cranberries at Weymouth (not a post office), which is between Mays Landing and Hammonton, and can be reached only by automobile from either place. C. S. Beckwith, cooperator, in charge. Post-office address, Pemberton, N. J.

### Whitesbog

*Blueberry investigations*, including growing and bringing to maturity, for purposes of observation and selection, blueberry hybrids produced by the United States Department of Agriculture. Work conducted by *Division of Botany* on property of Joseph J. White; Elizabeth C. White, cooperator, in charge. (Whitesbog is 4 miles east of Browns Mills, N. J., for which point trains leave from the Market Street Ferry station in Philadelphia; and 11 miles west of Lakehurst, N. J., on the Central Railroad of New Jersey. Auto and hotel accommodations may be obtained at either Browns Mills or Lakehurst.)

## NEW MEXICO

### Albuquerque

*United States Forest Pathology Field Laboratory*.—244 Korber Building. Telephone, 229.

*Forest Pathology*.—Investigations of forest and ornamental-tree diseases; direction of forest-pathology activities for National Forest District 3 in cooperation with Forest Service. W. H. Long, senior pathologist, in charge.

## State College

*State Agricultural Experiment Station (cooperative investigations).*—On campus of New Mexico College of Agricultural and Mechanic Arts, one-half mile from the Atchison, Topeka & Santa Fe Railway station.

*Sugar Plant Investigations.*—Breeding, variety testing, and experiments on seed production with sugar beets. J. C. Overpeck, agent, in charge.

*United States Acclimatization Field Station.*—On mesa near buildings of the New Mexico College of Agriculture and Mechanic Arts, 1 mile from the Atchison, Topeka & Santa Fe Railway station at Mesilla Park and 3 miles from Las Cruces. Mail address, P. O. Box 92, State College; telegraph address, State College. Transportation arrangements may be made in advance by wiring or writing A. R. Leding.

*Cotton, Rubber, and Other Tropical Plants.*—Acclimatization and adaptation investigations, with particular attention to breeding and cultural improvement of cotton and rubber production investigations. A. R. Leding, chief scientific aid and superintendent, in charge.

## Tucumcari

*United States Dry Land Field Station.*—About 2 miles northeast of Tucumcari, which may be reached on the Chicago, Rock Island & Pacific and Southern Pacific Railroads. Transportation arrangements may be made by communicating with D. R. Burnham. Telephone, 261.

*Cereal Crops and Diseases.*—Agronomic investigations with grain sorghums and broom-corn, including varietal comparisons and rates and dates of seeding. Work directed from Washington, D. C.; local supervision by D. R.

Burnham, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production, varietal tests and investigations on rate and date of seeding of cotton, steer feeding, and range-cattle feeding experiments in cooperation with New Mexico College of Agriculture and Bureau of Animal Industry. D. R. Burnham, associate agronomist and superintendent, in charge.

*Forage Crops and Diseases.*—Agronomic investigations with forage sorghums, Sudan grass, and cowpeas. Work directed from Washington, D. C.; local supervision by D. R. Burnham, associate agronomist and superintendent.

## NEW YORK

### Albany

*State Conservation Department.*—23 Pearl Street, about five minutes' walk from railroad station. May be reached by street car.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. H. L. McIntyre, collaborator and State leader, in charge. May be reached at State Office Building, Conservation Department.

### Babylon

*United States Entomological Field Laboratory (cooperative investigations).*—One and one-half miles from Babylon (Long Island Railroad from New York City) on Deer Park Avenue. May be reached by taxicab from station, or transportation may be arranged by telephoning 307.

*Horticultural Crops and Diseases.*—Investigations on diseases of ornamental bulbs, especially mosaic diseases of narcissus and iris, narcissus basal rot, and miscellaneous disease of greenhouse ornamentals. (Cooperation with Bureau

of Entomology and Cornell University.) F. A. Haasis, agent, in charge.

### Ithaca

*Cornell University Agricultural Experiment Station (cooperative investigations).*—Take street car east to campus and walk one-half mile east to Agricultural College.

*Cereal Crops and Diseases.*—Varietal comparisons of wheat, oats, and barley; extensive **breeding operations** and studies of inheritance characteristics in wheat; and extensive oat-breeding experiments, W. T. Craig, agent, in charge. Telephone, 2252.

Investigations of cytology and embryogeny of corn. L. F. Randolph, associate cytologist, in charge. In botany department. Telephone, 2194.

Investigations of cytology of small grains. Ernest Dorsey, agent, in charge. In plant-breeding department. Telephone, 2252.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on tomatoes and spinach. Paul Work, collaborator, in charge.

Potato breeding and seed potato improvement work. H. C. Thompson, J. R. Livermore, Donald Reddick, and E. V. Hardenburg, collaborators.

### New York City

*United States Market Pathology Laboratory.*—Room 403, Government Warehouse, 641 Washington Avenue. Telephone, Canal 6-660, extension 309.

*Horticultural Crops and Diseases.*—Investigations of fruits and vegetables in storage, market and transit, and the interpretation of their significance as causes of spoilage. (In cooperation with Bureau of Agricultural Economics.) C. O. Bratley, associate pathologist, in charge.



## NORTH CAROLINA

## Asheville

*United States Forest Pathology Field Laboratory.*—223 New Federal Building. Telephone, 3131.

*Forest Pathology.*—Investigations of forest-tree diseases, in cooperation with Appalachian Forest Experiment Station. R. M. Nelson, assistant pathologist, in charge.

## Atkinson

*Blueberry investigations*, including growing and bringing to maturity, for purposes of observation and selection, blueberry hybrids produced by the United States Department of Agriculture. Work conducted by *Division of Botany* on plantation of H. G. Huntington, 4½ miles northeast of Atkinson (Atlantic Coast Line Railroad), on road toward Beatty's Bridge; can be reached by automobile. William Horrell, superintendent, in charge.

## Chadbourn

*United States Strawberry Disease Field Laboratory.*—On North Carolina route 20, about 1 mile from the Atlantic Coast Line Railroad station. Can be reached by automobile.

*Horticultural Crops and Diseases.*—Investigations of strawberry diseases, especially the "dwarf" disease, and root rots. G. A. Meckstroth, associate pathologist, in charge.

## Oxford

*Tobacco Branch Station of State Agricultural Experiment Station and State Department of Agriculture (cooperative investigations).*—One mile southwest of Oxford, which is on the Seaboard Air Line and the Southern Railway; can be reached by automobile.

*Tobacco and Plant Nutrition.*—Seed selection; fertilizer and crop rotation tests; experiments in tobacco curing and tobacco diseases. E. G. Moss, senior agronomist, in charge. Telephone, 41-J.

### Rocky Mount

*Upper Coastal Plain Branch Station of State Agricultural Experiment Station and State Department of Agriculture (cooperative investigations).*—Seven and one-half miles east of Rocky Mount (Atlantic Coast Line Railroad) on the Cokey Road. Mr. Currin may be communicated with by telephone, calling Edgecombe test farm, No. 5202.

*Tobacco and Plant Nutrition.*—Tobacco varietal tests; fertilizer and crop rotation experiments with tobacco. R. E. Currin, jr., agent, in charge.

### Statesville

*Piedmont Branch Station of State Agricultural Experiment Station and State Department of Agriculture (cooperative investigations).*—One and one-half miles northwest of Statesville, which is on the Southern Railway. J. W. Hendricks, superintendent, may be communicated with by telephone.

*Forage Crops and Diseases.*—Studies of acid-tolerant legumes, lespedeza varieties and culture; tests of strains of red clover and alfalfa; tests of varieties of soybeans. R. E. Stitt, assistant agronomist, in charge.

### Willard

*Coastal Plain Branch Station of State Agricultural Experiment Station and State Department of Agriculture (cooperative investigations).*—An Atlantic Coast Line Railroad. Bus between Wilmington, Goldsboro, and Raleigh discharges passengers at East Wallace, 3 miles from the substation, which is 1 mile north of railroad station at Willard.

Telephone: Call Coastal Plain Station through Wallace, N. C., exchange. Visitors may be met at East Wallace bus station by automobile.

*Botany.*—Blueberry investigations. C. T. Dearing, associate horticulturist, in charge. (Cooperative experimental plantings are located near Clinton on property of William Peterson and near Kenansville on property of C. M. Ingram.)

*Forage Crops and Diseases.*—Investigations of legumes adapted to the coastal plain area, especially acid-tolerant legumes; investigations also with crotalaria, lespedeza, and winter legumes for green manuring. W. M. Stuart, jr., assistant agronomist, in charge.

*Horticultural Crops and Diseases.*—Cultural, breeding, and other investigations pertaining to the muscadine grape. C. T. Dearing, associate horticulturist, in charge.

Small-fruit investigations. Work directed by G. M. Darrow, senior pomologist; C. T. Dearing, associate horticulturist, in charge.

Bulb-culture investigations, particularly daffodils and tulips; other bulbous crops also studied. David Griffiths, senior horticulturist, in charge.

Potato-breeding investigations and seedling potato tests. J. H. Beaumont, agent, in charge. (Similar investigations also conducted at Raleigh, Newlands, and Swannanoa, N. C.)

## NORTH DAKOTA

### Dickinson

*Dickinson Substation, State Agricultural Experiment Station (cooperative investigations).*—About 1 mile northwest of Dickinson (Northern Pacific Railway). Transportation arrangements may be made by communicating with Leroy Moomaw. Telephone, 215-W.

*Cereal Crops and Diseases.*—Agronomic investigations of cereals, principally wheat, oats,

barley, flax, and corn, including varietal comparisons; rates, dates, and methods of seeding; breeding and selection; also special study of northern short-season corns and of weed control in flax. R. W. Smith, associate agronomist, in charge.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by R. W. Smith, associate agronomist.

*Dry Land Agriculture.*—Dry-land crop rotations and production. Leroy Moomaw, associate agronomist and superintendent, in charge.

### Fargo

*State Agricultural College and Experiment Station (cooperative investigations).*—About 1½ miles northwest of city. Take street car marked "Agricultural College."

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State Department of Agriculture.) G. C. Mayoue, associate pathologist, in charge of district No. 1 (North Dakota and Montana). Office, 203 Science Hall.

*Cereal Crops and Diseases.*—Wheat-improvement studies, including breeding and testing for disease resistance. Work directed from Washington, D. C.; local supervision by L. R. Waldron, collaborator and agronomist in plant breeding.

Pathologic experiments on diseases of flax (except flax rust), including flax wilt, two kinds of flax canker, and the pasmo disease. H. H. Flor, associate pathologist, in charge. In Biology Building. Telephone, 4903.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by P. F. Trowbridge, director of the station.

*Horticultural Crops and Diseases.*—Growing and testing seedling potatoes. A. F. Yeager, collaborator, in charge.

### Langdon

*Langdon Substation, State Agricultural Experiment Station (cooperative investigations).*—About 1 mile east of Langdon (Great Northern Railway). Arrangements for transportation may be made by communicating with Victor Sturlaugson, superintendent, or G. S. Smith. Telephone, 19-F-1.

*Cereal Crops and Diseases.*—Investigations in the improvement of wheat, principally methods of production and breeding varieties for quality and disease resistance. G. S. Smith, junior agronomist, in charge.

### Mandan

*United States Northern Great Plains Field Station.*—About 1 mile southwest of Mandan (Northern Pacific Railway). May be reached by automobile, or transportation arrangements may be made by telephoning the station, calling 348.

*Cereal Crops and Diseases.*—Extensive agronomic and genetic studies on seed flax, including breeding for resistance to flax wilt and rust and cultural methods to control weeds. J. C. Brinsmade, jr., assistant agronomist, in charge.

Varietal comparisons of wheat, oats, and barley, and extensive spring-wheat breeding experiments for resistance to rust and drought and improvement in quality. V. C. Hubbard, junior agronomist, in charge.

Varietal and improvement studies on corn. Work directed from Washington, D. C.; local supervision by officials at the station.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by J. C. Brinsmade, jr., assistant agronomist.

*Dry Land Agriculture.*—Dry-land crop rotations and production; study of effect of grazing upon native vegetation; varietal testing, breeding, and cultural experiments with fruits, ornamental plants, and garden vegetables; shelter-belt investigations and distribution in cooperation with farmers; dairy investigations in cooperation with Bureau of Dairy Industry. J. M. Stephens, principal agriculturist and superintendent, in charge. E. J. George, assistant silviculturist, in charge of shelter-belt investigations; J. T. Sarvis, associate agronomist, in charge of agronomic and grazing investigations; W. P. Baird, associate horticulturist, in charge of horticultural investigations.

*Forage Crops and Diseases.*—Varietal and cultural tests with alfalfa adapted to dry-land conditions; comparison tests with grasses, sweetclover, sorghums, and sunflowers for silage. J. T. Sarvis, associate agronomist, has local supervision of the work.

## OHIO

### Columbus

*Barberry Eradication Field Office.*—Room 304, 8 East Broad Street. Telephone, Adams 1728.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation with State College of Agriculture and State Department of Agriculture.) Harry Atwood, agent, in charge.

*State College of Agriculture (cooperative investigations).*—About 3 miles from railroad station at Columbus. May be reached by street car.

*Cereal Crops and Diseases.*—Genetic and breeding studies with corn, including tests of inbred strains for possible resistance or tolerance to corn-borer attack, in cooperation with Ohio Agricultural Experiment Station. Work

conducted by G. H. Stringfield, agent, from Wooster; J. B. Park, professor of farm crops, in local charge.

### Holgate

*Northwestern Experiment Farm, State Agricultural Station (cooperative investigations).—*

About one-half mile south of Holgate, which is on the Baltimore & Ohio Railroad. J. B. McLaughlin, superintendent of the experiment farm.

*Forage Crops and Diseases.*—Source of seed tests of alfalfa and red clover. David Heusinkveld, assistant agronomist, in charge.

Soybean variety, cultural, breeding, and utilization investigations. J. L. Cartter, assistant agronomist, in charge.

### North Ridgeville

*United States Forage Crop Field Experiments.—*

Two miles west of North Ridgeville; 3 miles east of Elyria. Most easily reached from the latter place, electric cars leaving there every hour. Get off at stop 70, Cleveland Road; experimental plots located across road.

*Forage Crops and Diseases.*—Breeding and developing strains of timothy; testing alfalfa, clover, soybeans, and field peas. M. W. Evans, associate agronomist, in charge. Telephone, 30-322.

### Wooster

*Ohio Agricultural Experiment Station (cooperative investigations).—*About 1 mile south of Wooster, which may be reached by the Baltimore & Ohio and Pennsylvania Railroads. Station may be reached by automobile; no street cars.

*Cereal Crops and Diseases.*—Investigations on the physiology of corn. J. D. Sayre, physiologist, in charge.

Investigations on breeding and methods of corn production, with special reference to re-

ducing damage by the European corn borer. G. H. Stringfield, agent, in charge.

*Forest Pathology.*—Investigations of Dutch elm diseases. Curtis May, collaborator, in charge.

## OKLAHOMA

### Lawton

**United States Dry Land Field Station.**—About 1½ miles north of Lawton (Chicago, Rock Island & Pacific and St. Louis-San Francisco Railways). Take Fort Sill trolley to station, or communicate with W. M. Osborn regarding transportation arrangements. Telephone, 21-W.

*Cereal Crops and Diseases.*—Agronomic investigations with grain sorghums and broomcorn, including varietal comparisons and rates and dates of seeding; varietal tests with wheat. Work directed from Washington, D. C.; local supervision by W. M. Osborn, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production; varietal tests and investigations on rate and date of seeding of cotton; study of chinch-bug control in cooperation with Bureau of Entomology and Kansas Agricultural College. W. M. Osborn, associate agronomist and superintendent, in charge.

*Forage Crops and Diseases.*—Agronomic investigations with forage sorghums, sweetclover, and grasses. Work directed from Washington, D. C.; local supervision by W. M. Osborn, associate agronomist and superintendent.

### Woodward

**Southern Great Plains Field Station.**—About 1 mile southwest of Woodward (Atchison, Topeka & Santa Fe and Missouri, Kansas & Texas Railways). Transportation arrangements may be made by communicating with E. F. Chilcott. Telephone, 99.



*Cereal Crops and Diseases.*—Extensive agronomic investigations of grain sorghums and broomcorn, including varietal comparisons; studies of rates and dates of seeding and the spacing of rows and of plants in the row; hybridization and selection; and genetic studies. J. B. Sieglinger, agronomist, in charge.

Agronomic investigations with wheat, including cultural, breeding, and genetic experiments. Edmund Stephens, junior agronomist, in charge.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by J. B. Sieglinger, agronomist.

*Dry Land Agriculture.*—Dry-land crop rotations and production, horticultural and vineyard investigations, forestry investigations, investigations and cooperative shelter-belt distribution with farmers. E. F. Chilcott, senior agriculturist and superintendent, in charge; L. F. Locke, associate horticulturist, in charge of horticultural investigations.

*Forage Crops and Diseases.*—Agronomic investigations with forage sorghums, cowpeas, and grasses. Work directed from Washington, D. C.; local supervision by E. F. Chilcott, senior agriculturist and superintendent.

## OREGON

### Corvallis

*State Agricultural Experiment Station (cooperative investigations).*—About 1 mile from center of town; may be reached by street car or bus.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. L. N. Goodding, associate pathologist and State leader, in charge. In department of botany and plant pathology.

*Cereal Crops and Diseases.*—Investigation of foot-rot diseases of cereals, especially wheat.

Roderick Sprague, assistant pathologist, in charge. In department of botany and plant pathology.

*Drug and Related Plants.*—Experiments with roses to determine the feasibility of domestic rose culture for perfume production. Work directed from Washington, D. C.; local supervision by W. S. Brown, horticulturist of the station.

Investigation of distribution and control of downy mildew of hops. Survey control work in charge of G. R. Hoerner, agent; breeding work under direction of E. N. Bressman, collaborator.

*Fiber Plant Investigations.*—Experiments with fiber flax, cultural experiments on experimentation farm, and field tests on farms of fiber-flax growers. B. B. Robinson, assistant plant breeder.

*Forage Crops and Diseases.*—Agronomic investigations of forage crops, including vetches, clovers, grasses, alfalfa, and miscellaneous legumes; plot experiments in studies of rates and dates of seeding; varietal comparison; studies in hybridization and selection. H. A. Schoth, associate agronomist, in charge.

*Horticultural Crops and Diseases.*—Nut-production investigations. C. E. Schuster, horticulturist, in charge.

Nut-disease investigations. P. W. Miller, associate pathologist, in charge.

Small-fruit investigations. G. M. Darrow, senior pomologist, in charge.

Investigations on mosaic and other virus diseases of potato, involving insect and host relations to these diseases. T. P. Dykstra, assistant pathologist, in charge.

Investigations on disease resistance and nature of resistance of different vegetables to curly top; investigations on nature of curly-top virus. B. F. Dana, pathologist, in charge.

Cultural, growth, and varietal studies of the Jerusalem artichoke. H. A. Schoth, associate agronomist, in charge.

Investigations on diseases of ornamental bulbs. F. P. McWhorter, agent, in charge. In Agricultural Building. Telephone, 620.

*Cooperative Seed Testing Laboratory.*—At Agricultural Experiment Station.

*Seed Investigations.*—Testing agricultural seeds for mechanical purity and germination; identification of seeds of cultivated plants and weeds; testing seeds submitted in connection with enforcement of Federal seed act. G. R. Hyslop, collaborator, in charge; Grace M. Cole, assistant botanist.

### Hermiston

*Umatilla Field Station.*—About 2 miles north of railroad station at Hermiston, which is on the Oregon Short Line Railroad (Union Pacific system). Telephone H. K. Dean regarding transportation arrangements.

*Drug and Related Plants.*—Experiments with the propagation of *Artemisia cina*, a plant yielding the drug santonin, and field tests to determine the commercial possibilities of this plant as a crop in the United States. Work directed from Washington, D. C.; local supervision by H. K. Dean, associate agronomist and superintendent.

*Western Irrigation Agriculture.*—Irrigated rotation and tillage experiments; alkali and fertilizer pot tests; field commercial-fertilizer tests; variety tests of corn and alfalfa; tests of pasture grasses and irrigation methods; experiments in poultry, hog, and sheep feeding. H. K. Dean, associate agronomist and superintendent, in charge.

### Hood River

*United States Fruit Disease Field Laboratory.*—Rooms 22 and 23, Pythian Building, about two blocks from Union Pacific system railroad station. Telephone, 1304.

*Horticultural Crops and Diseases.*—Perennial apple-canker investigations. E. V. Shear, associate pathologist, in charge.

### Moro

*Sherman County Branch Station, State Agricultural Experiment Station (cooperative investigations).*—Most convenient way to reach Moro (Union Pacific system) from the main line is by bus (four daily) from The Dalles, by the Union Pacific and Columbia Gorge companies. A night wait now is required at Biggs to make connection from main-line trains. Telephone, Main 281.

*Cereal Crops and Diseases.*—Extensive agronomic investigations of dry-land cereals, chiefly wheat, oats, and barley, and of methods of cereal production, including classification; varietal comparisons; genetics and breeding; rates, dates, and methods of seeding; tillage; seed-bed preparation; fallowing methods; and rotation effects. D. E. Stephens, senior agronomist and superintendent, in charge.

### Pendleton

*Pendleton Field Station, State Agricultural Experiment Station (cooperative investigations).*—Ten miles northeast of Pendleton (Union Pacific system). Union Pacific and Columbia Gorge bus lines out of Pendleton run within 2 miles of field station. Havana is the nearest rail station on the Pendleton-Walla Walla branch of the Union Pacific. Post-office address, Adams, Oreg. Telephone, Pendleton 119. Communicate with G. A.

Mitchell regarding transportation arrangements.

*Cereal Crops and Diseases.*—Agronomic investigations with cereals, chiefly wheat, oats, and barley, including culture, varietal comparisons, genetics, and breeding. J. F. Martin, junior agronomist, in charge.

*Dry Land Agriculture.*—Dry-land crop rotations and production. G. A. Mitchell, assistant agronomist, in charge.

### Portland

*United States Forest Pathology Field Laboratory.*—Room 631, new Post Office Building. Telephone, Broadway 5500, local 21.

*Forest Pathology.*—Investigations of forest and ornamental tree diseases; direction of forest-pathology activities for National Forest District 6, in cooperation with the Forest Service. H. G. Lachmund, pathologist, in charge.

## PENNSYLVANIA

### Ephrata

*State Branch Station, Agricultural Experiment Station (cooperative investigations).*—Located on farms of E. K. Hibshman, one-half mile north of Ephrata, on Denver-Reading Road. May be reached by automobile.

*Tobacco and Plant Nutrition.*—Improvements in methods of handling tobacco seed beds and curing; tobacco breeding, including development of strains and types of high and low nicotine content; fertilizer tests. Otto Olson, associate agronomist, in charge. Telephone, Independent 221-J.

### Harrisburg

*Pennsylvania Department of Forests and Waters.*—In the State Capitol Building.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. R. P. Fatzinger, agent and State leader, in charge.

### Kylertown

*United States Forage Crop Field Experiments (cooperative investigations, State Agricultural Experiment Station).*—Experiments located near Kylertown, which is on a State highway 45 miles northwest of State College. Reached by Pennsylvania Railroad to Tyrone and bus from there to Kylertown.

*Forage Crops and Diseases.*—Pasture investigations, including tests of carrying capacity and productiveness under grazing conditions; comparisons of a large number of grasses and legumes in pure cultures on small plots; also tests of fertilizers. —————, in charge.

### Philadelphia

*United States Forest Pathology Field Laboratory.*—3437 Woodland Avenue. Most easily reached from Thirtieth Street Station. Telephone, Baring 7741 (Allegheny Forest Experiment Station) or Evergreen 0100 (University of Pennsylvania, botany department).

*Forest Pathology.*—Investigations of diseases of forest and shade trees in Pennsylvania, Maryland, Delaware, and New Jersey, featuring butt rots of sprout hardwoods, diseases of coniferous nursery stock, and mycorrhiza, in cooperation with Allegheny Forest Experiment Station. L. W. R. Jackson, assistant pathologist, in charge.

### State College

*State Agricultural Experiment Station (cooperative investigations).*—Twenty-eight miles from Tyrone, which is on the Pennsylvania Railroad. Busses meet trains for State College.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on cabbage. C. E. Myers, collaborator, in charge.

## PHILIPPINE ISLANDS

### Manila

*Investigations on improvement of abacá and maguey industries*, conducted by *Division of Fiber Plant Investigations* in cooperation with Philippine Bureau of Agriculture. Work directed from Washington, D. C.; H. T. Edwards, senior technologist, in charge.

## PORTO RICO

### Guayama

*United States Sugar Plant Field Laboratory.*—Six miles northeast of Guayama. For directions in regard to reaching the station inquire at office of irrigation service, Department of Interior, Government of Porto Rico, Guayama.

*Sugar Plant Investigations.*—Botanical investigations of varieties of sugarcane. Holger Johansen, agent, in charge.

### Mayaguez

*Porto Rico Agricultural Experiment Station (cooperative investigations).*—About one-half mile north of central part of Mayaguez, or a little more than a mile from the railroad station. May be reached by conveyance or on foot.

*Fiber Plant Investigations.*—Plant breeding with henequen and sisal; propagation of abacá (manila hemp) for the development of stocks for experimental planting; propagation of kapok, pochote, and allied plants. Rafael Vidal, agent, in charge.

## RHODE ISLAND

## Kingston

*State Agricultural Experiment Station (cooperative investigations).*—About 3 miles north of New York, New Haven & Hartford Railroad station. May be reached by automobile.

*Horticultural Crops and Diseases.*—Testing potato seedlings. T. E. Odland, collaborator, in charge.

## Providence

*Brown University (cooperative investigations).*—About 1 mile from railroad station; reached by street car from Exchange Place, near the station. Telephone, Jaspee 6771.

*Forest Pathology.*—Investigation of diseases of shade and ornamental trees and shrubs. J. F. Collins, senior pathologist, in charge. In basement of Maxcy Hall.

*State Board of Agriculture.*—Room 310, State House. About five minutes' walk from the railroad station. Telephone.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. A. W. Hurford, agent and State leader, in charge.

## SCOTLAND

## Edinburgh

*Mycological Laboratories of Royal Botanic Garden (cooperative investigations).*—On Inverleith Road, about 2 miles from Princess Street. Reached by trams from Princess Street.

*Forest Pathology.*—Investigations of Douglas-fir and European-larch cankers. Malcolm Wilson, specialist in forest pathology, in charge.



## SOUTH CAROLINA

## Charleston

**United States Acclimatization Field Station.**—

On James Island, 12 miles from Charleston. Mail address, Box 153, Charleston; telegraph address, Charleston. Transportation arrangements may be made by writing or wiring D. M. Simpson. Telephone, 8105.

*Cotton, Rubber, and Other Tropical Plants.*—

Acclimatization and adaptation investigations, with particular attention to the breeding and cultural improvement of cotton. D. M. Simpson, associate agronomist and superintendent, in charge.

Special breeding, cultural, and ginning experiments with sea-island cotton conducted at Rockland Plantation, Wadmallow Island, 22 miles from Charleston. D. M. Simpson, associate agronomist and superintendent, in charge.

*Horticultural Crops and Diseases.*—Bulb culture investigations, especially daffodils, with particular reference to the tender polyanthus group and the adaptable forms of hardy narcissus; also work with genera adapted to culture in warm regions. Work directed from Washington, D. C., by David Griffiths, senior horticulturist; local supervision by D. M. Simpson, associate agronomist and superintendent.

*United States Bean Disease Field Laboratory.*—

Located at 57 Queen Street. No telephone.

*Horticultural Crops and Diseases.*—Bean root-rot investigations; study of seed source for disease-free seed; control studies on powdery mildew of beans. W. D. Moore, associate pathologist, in charge.

## Clemson College

*State Agricultural Experiment Station (cooperative investigations).*—Located about 1½

miles from Calhoun, which is on the main line of the Southern Railway. Bus service.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on cabbage. R. A. McGinty, collaborator, in charge.

### Columbia

*Sand Hill Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—About 14 miles north of Columbia on Dixie Highway, near Pontiac, S. C., on Seaboard Air Line, but best reached by bus from Columbia. Call the station by long distance from Columbia regarding transportation arrangements. Mail address, R. F. D. 5, Columbia.

*Forage Crops and Diseases.*—Agronomic investigations with soybeans, cowpeas, velvet beans, pigeon peas, crotalarias, vetches, winter peas, and sorghums; green-manure and cover-crop studies in cooperation with Soil Fertility Division, Bureau of Chemistry and Soils; pasture investigations and tests of newly introduced grasses and legumes. R. B. Carr, agent, in charge.

### Florence

*Pee Dee Experiment Station, State Agricultural Experiment Station (cooperative investigations).*—About 3 miles north of railroad station (Atlantic Coast Line and Seaboard Air Line Railways), or 2½ miles from center of town on Darlington Road. May be reached by automobile. Telephone, 4002.

*Cereal Crops and Diseases.*—Limited corn-breeding experiments. Work directed from Washington, D. C.; local supervision by R. E. Currin, superintendent.

*Horticultural Crops and Diseases.*—Investigations with peanuts and sweetpotatoes, including crop improvement by selection and methods of

culture and handling. Work directed from Washington, D. C.; local supervision by J. D. McCown, agent.

## SOUTH DAKOTA

### Ardmore

**United States Dry Land Field Station.**—About 2 miles northwest of Ardmore (Chicago, Burlington & Quincy Railroad). Telephone O. R. Mathews regarding transportation arrangements, calling 61 on 43.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by O. R. Mathews, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land rotations and production; shelter-belt investigations; swine investigations and steer-grazing investigations in cooperation with the Bureau of Animal Industry; and dairy investigations in cooperation with the Bureau of Dairy Industry. O. R. Mathews, associate agronomist and superintendent, in charge.

### Brookings

*State Agricultural Experiment Station and College of Agriculture (cooperative investigations).*—About 1 mile northeast of center of Brookings, which is on the Chicago & North Western Railway. May be reached by automobile or on foot.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State Department of Agriculture.) R. O. Bulger, agent, in charge of district No. 2 (South Dakota and eastern Nebraska). Office in Extension Service.

*Cereal Crops and Diseases.*—Breeding nurseries for the improvement of wheat in adapta-

tion, quality, and disease resistance (located in Brookings and the substations at Eureka and Highmore). Work directed from Washington, D. C.; local supervision by A. N. Hume, collaborator and superintendent of the substations.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production of drying oils. Local supervision by C. Larsen, dean of the division of agriculture.

### Newell

*Belle Fourche Field Station.*—About 2½ miles northwest of Chicago & North Western Railway station. Telephone Beyer Aune regarding transportation arrangements, calling 12-F-2.

*Dry Land Agriculture.*—Dry-land crop rotations and production. Albert Osenbrug, associate agronomist, in charge. Telephone, 12-F-2.

*Western Irrigation Agriculture.*—Irrigated rotation and tillage experiments, varietal tests, livestock investigations, and pasturing experiments in cooperation with Bureau of Animal Industry, and investigations in the drainage of seeped lands. Beyer Aune, associate agronomist and superintendent, in charge.

### Redfield

*United States Cereal Field Experiments (co-operative investigations, State Agricultural Experiment Station).*—About 1 mile east of Redfield, which may be reached on the Chicago & North Western and the Chicago, Milwaukee, St. Paul & Pacific Railroads.

*Cereal Crops and Diseases.*—Breeding and improvement of cereal crops, especially wheat, for adaptation, quality, and resistance to diseases, particularly rusts and smuts. E. S. McFadden, associate agronomist, in charge.

*United States Forage Crop Field Experiments.*—About 1 mile east of Redfield (Chicago &

North Western and Chicago, Milwaukee, St. Paul & Pacific Railroads). Telephone, 240 Red.

*Forage Crops and Diseases.*—Developing varieties of alfalfa and investigating cultural methods; agronomic investigations with other forage crops, and experiments with silage. Samuel Garver, associate agronomist, in charge.

## TENNESSEE

### Knoxville

*State Agricultural Experiment Station (cooperative investigations).*—About 10 minutes' ride by street car from railroad station. Telephone, University of Tennessee Farm 48.

*Cereal Crops and Diseases.*—Agronomic and genetic studies of corn, including varietal comparisons, cultural studies, and breeding experiments. L. S. Mayer, assistant agronomist, in charge.

Testing wheat selections for leaf-rust resistance. Work directed from Washington, D. C.

*Forage Crops and Diseases.*—Tests with anthracnose-resistant red-clover seed grown in various sections. Work directed from Washington, D. C.; local supervision by H. P. Ogden, associate agronomist of the station.

*Tobacco and Plant Nutrition.*—Burley tobacco investigations, including determination of types of soil best adapted to Burley; fertilizer requirements of Burley tobacco; methods of growing, handling, and curing Burley tobacco. H. W. Jones, agent, in charge.

## TEXAS

### Austin

*Citrus Canker Eradication Field Office.*—State Department of Agriculture.

*Citrus Canker Eradication.*—Direction of local activities in the eradication of citrus

canker in Texas. J. M. Del Curto, State entomologist, in charge.

*United States Pecan Field Laboratory.*—Located at Nineteenth and Red River Streets. Take East Avenue and Oakwood bus at railroad station to Nineteenth Street and East Avenue; walk west two blocks to the laboratory. Telephone, 2-4455.

*Horticultural Crops and Diseases.*—Pecan investigations, variety standardization, breeding, propagation, nutrition from standpoint of fruit setting and maturing, harvesting, drying, grading, and storage. Work directed from Albany, Ga., by H. L. Crane, horticulturist; C. L. Smith, associate physiologist, in local charge.

### Beaumont

*Substation No. 4, State Agricultural Experiment Station (cooperative investigations).*—On Missouri Pacific and Southern Pacific Railroads. Communicate with R. H. Wyche, superintendent of the station, regarding transportation. Telephone, 9005.

*Cereal Crops and Diseases.*—Agronomic investigations with rice, including varietal comparisons, genetic and breeding investigations, and cultural, irrigation, and fertilizer studies. H. M. Beachell, agent, in charge.

### Big Spring

*United States Dry Land Field Station.*—One mile north of Big Spring (Texas & Pacific Railway). Telephone F. E. Keating regarding transportation arrangements, calling 330.

*Cereal Crops and Diseases.*—Agronomic investigations with grain sorghums and broomcorn, including varietal comparisons and rates and dates of seeding. Work directed from Washington, D. C.; local supervision by F. E. Keating, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production, varietal tests and investigations on rate and date of seeding of cotton, varietal tests of fruits and grapes, and cattle-feeding investigations in cooperation with the Bureau of Animal Industry. F. E. Keating, associate agronomist and superintendent, in charge.

*Forage Crops and Diseases.*—Agronomic investigations with forage sorghums, Sudan grass, sweetclover, and cowpeas. Work directed from Washington, D. C.; local supervision by F. E. Keating, associate agronomist and superintendent.

### Brownwood

*United States Pecan Field Laboratory.*—Office and laboratory located in courthouse. Experimental plots located about one-half mile from center of town. Communicate with Joseph Hamilton regarding transportation.

*Horticultural Crops and Diseases.*—Top-working experiments and pecan-culture investigations. Work directed from Austin, Tex., by C. L. Smith, associate physiologist; Joseph Hamilton, junior pomologist, in local charge.

### Chillicothe

*Substation No. 12, State Agricultural Experiment Station (cooperative investigations).*—Four and one-half miles south and a little west, on the main highway, from Chillicothe, which is on the Fort Worth & Denver City Railway. Telephone J. R. Quinby, the superintendent, regarding transportation.

*Forage Crops and Diseases.*—Agronomic investigations with dry-land forage crops, principally sorghums, but including cowpeas, sweetclover, alfalfa grasses, and winter peas. Special attention is given to the breeding of new sorghum varieties and the study of sorghum genetics, also to the morphology of Johnson grass. J. C. Stephens, assistant agronomist, in charge.

### Dalhart

**United States Dry Land Field Station.**—Three miles southwest of Dalhart, which is on the Chicago, Rock Island & Pacific and Fort Worth & Denver City Railways. Telephone B. F. Barnes regarding transportation arrangements, calling 90.

*Cereal Crops and Diseases.*—Agronomic investigations with grain sorghums and broomcorn, including varietal comparisons and rates and dates of seeding. Work directed from Washington, D. C.; local supervision by B. F. Barnes, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production; varietal tests and investigations on rate and date of seeding of cotton; forestry investigations in cooperation with the Forest Service. B. F. Barnes, associate agronomist and superintendent, in charge.

*Forage Crops and Diseases.*—Agronomic investigations with forage sorghums, Sudan grass, and cowpeas. Work directed from Washington, D. C.; local supervision by B. F. Barnes, associate agronomist and superintendent.

### Denton

*Substation No. 6, State Agricultural Experiment Station (cooperative investigations).*—Five miles northwest of Missouri, Kansas & Texas Railway station at Denton. Communicate with P. B. Dunkle, superintendent, regarding transportation. Telephone, 678.

*Cereal Crops and Diseases.*—Agronomic investigations with small grains, particularly wheat and oats, including varietal comparisons, breeding and genetic studies, and cultural experiments. I. M. Atkins, junior agronomist, in charge.

*Drug and Related Plants.*—Field tests with safflower as an oilseed crop for the production



of drying oils. Local supervision by P. B. Dunkle, superintendent of the station.

### Greenville

**United States Cotton-Breeding Field Station.**—Five miles southwest of Greenville, which is on the Southern Pacific and Missouri, Kansas & Texas railroads. Transportation arrangements may be made in advance by writing or wiring H. C. McNamara, or by telephoning 402-J or 402-W.

*Cotton, Rubber, and Other Tropical Plants.*—Acclimatization and adaptation investigations, with particular attention to breeding and cultural improvement of cotton. H. C. McNamara, associate agronomist and superintendent, in charge.

Cotton disease investigations, with special reference to cotton root rot and control methods. D. C. Neal, senior pathologist, in charge.

### Nacogdoches

*Substation No. 11, State Agricultural Experiment Station (cooperative investigations).*—About 2 miles from Nacogdoches (Nacogdoches & Southeastern and Southern Pacific Railroads). Telephone H. F. Morris, superintendent, regarding transportation.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on tomatoes. H. F. Morris, superintendent, in local charge.

### San Antonio

*United States San Antonio Field Station.*—About 5 miles south of San Antonio. Street cars run within 1 mile of station; may also be reached by automobile from railroad station. Telephone G. T. Ratliffe regarding instructions for reaching there.

*Cereal Crops and Diseases.*—Varietal tests of seed flax, and an extensive nursery for the

classification of flax varieties. Work directed from Washington, D. C.; local supervision by G. T. Ratliffe, associate agronomist and superintendent.

*Cotton, Rubber, and Other Tropical Plants.*—Breeding and cultural improvement of cotton, and investigations of root rot and other diseases of cotton. Work directed from Greenville, Tex.; local supervision by G. T. Ratliffe, associate agronomist and superintendent.

*Western Irrigation Agriculture.*—Rotation and tillage experiments; breeding, cultural, varietal, and boll-weevil tests with cotton; experiments in the control of cotton root rot; adaptation and varietal tests of sorghums, legumes, and grasses; and adaptation, varietal, and cultural tests of economic and ornamental plants. G. T. Ratliffe, associate agronomist and superintendent, in charge.

#### Weslaco

*Substation No. 15, State Agricultural Experiment Station (cooperative investigations).*—About 1½ miles south of Weslaco (Missouri Pacific Railroad). Telephone W. H. Friend, superintendent, regarding transportation.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on carrot, beet, and tomato. W. H. Friend, superintendent, in local charge.

Date investigations; a series of tests of imported date offshoots to determine the varieties most likely to prove of commercial value in Texas. Work directed from Washington, D. C., by W. T. Swingle, principal physiologist; W. H. Friend, superintendent, in local charge.

Tests of citrus hybrids and stocks, as well as some introduced varieties of citrus. Work directed from Washington, D. C., by W. T. Swingle, principal physiologist; W. H. Friend, superintendent, in local charge.

### Winter Haven

*Substation No. 19, State Agricultural Experiment Station (cooperative investigations).—*

Winter Haven is on the International & Great Northern Railway, about 5 miles from Crystal City and 7 miles from Carrizo Springs. Telephone E. Mortensen, superintendent, regarding transportation.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on carrot, beet, and spinach. L. R. Hawthorn, agent, in local charge.

## UTAH

### Ephraim

*Great Basin Experiment Station, Forest Service (cooperative investigations).—*Post-office address, Great Basin Experiment Station, Ogden, Utah. Arrangements for visiting the experimental areas at Ephraim should be made with C. L. Forsling, director of the station.

*Forage Crops and Diseases.*—Investigations of the possibility of establishing sweetclover on depleted range lands; experiments, including cultural tests and adaptability tests of sweetclover strains, are conducted at three different elevations in the mountains. Local supervision of the work by C. L. Forsling, director of the station.

### Logan

*State Agricultural Experiment Station (cooperative investigations).—*About 1 mile east of Oregon Short Line Railroad station. Take bus to the experiment station.

*Cereal Crops and Diseases.*—Agronomic investigations, particularly with wheat, oats, and barley, including varietal comparisons, breeding and genetics, and cultural studies. Outlying experiments at Nephi and in the Salt Lake Val-

ley are conducted from this point. R. W. Woodward, junior agronomist, in charge.

*Horticultural Crops and Diseases.*—Investigations of curly top and other diseases of the tomato, including selections of tomato for resistance to curly top. H. L. Blood, agent, in charge.

*Sugar Plant Investigations.*—Genetic investigations on curly-top disease of sugar beets. Wesley Keller, agent, in charge.

### Salt Lake City

*Nema Field Laboratory.*—Clift Building, corner of Third Street South and Main. May be reached by street car.

*Nematology.*—Investigations in plant-parasitic, predaceous, and free-living nemas, especially the sugar-beet and alfalfa nematodes. W. D. Courtney, assistant nematologist, in charge.

*United States Sugar Plant Field Station.*—Office and laboratory, 1810 South Main Street. May be reached by street car from railroad station.

*Sugar Plant Investigations.*—Investigations on sugar-beet genetics, physiology, pathology, and agronomy. Experimental work chiefly devoted to investigation of the curly-top disease. F. V. Owen, geneticist, in charge.

## VERMONT

### Middlebury

*Morgan Horse Farm (cooperative investigations).*—Two miles north of Middlebury (Rutland Railroad). Visitors should make arrangements regarding transportation in advance with R. F. Copple, or E. B. Krantz, superintendent of the farm.

*Forage Crops and Diseases.*—Study of pasture mixtures, reclamation of old pastures and supplemental pastures; grazing experiments; and

a pasture survey of New England. (Cooperation with Bureau of Animal Industry.) R. F. Cople, assistant agronomist, in charge.

### Montpelier

*State Forest Service.*—In statehouse, opposite railroad station.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. P. H. Merrill, collaborator and commissioner of forestry, in charge.

## VIRGINIA

### Blacksburg

*State Agricultural Experiment Station (cooperative investigations).*—Eight miles from Christiansburg (Norfolk & Western Railway); busses meet all trains.

*Fiber Plant Investigations.*—Developing improved strains of hemp and production of seed for experimental purposes. Work directed from Washington, D. C.; local supervision by M. S. Kipps, of the experiment station.

### Bowling Green

*Caroline County Station, State Agricultural Experiment Station (cooperative investigations).*—Three and one-half miles north of Bowling Green on road leading to Fredericksburg; may be reached by automobile. The railroad station is Milford (Richmond, Fredericksburg & Potomac Railroad), about 2¾ miles southwest of Bowling Green.

*Tobacco and Plant Nutrition.*—Crop rotation and fertilizer studies. W. W. Green, agent, in charge. Mr. Green may be reached by telephone.

### Diamond Springs

*Virginia Truck Experiment Station (cooperative investigations).*—Reached by Beach electric train from Norfolk. Address, Norfolk, Box 88. Telephone, Juniper 28-F-2.

*Horticultural Crops and Diseases.*—Potato and nursery-stock investigations. Local supervision of the work by T. C. Johnson, director of the station.

Studies in connection with the vegetable variety type-book work on cabbage, carrot, and beet. —————, in charge.

### East Falls Church

*Nema Field Laboratory.*—In the building of the United States Entomological Laboratory. From Washington, D. C., take Falls Church car on Arlington & Fairfax Railway, either at Twelfth Street and Pennsylvania Avenue NW. or at the Department of Agriculture, Fourteenth and B Streets SW., and get off at East Falls Church; laboratory about one-fourth mile east of car stop on Lee Highway. May also be reached by Falls Church bus from Twelfth Street and Pennsylvania Avenue NW. or by automobile via Georgetown, Key Bridge, Rosslyn, and the Lee Highway. Telephone, Falls Church 144.

*Nematology.*—Investigations of plant-infesting nemas, especially their specificity with respect to host plants; investigations of nemic parasites of insects. J. R. Christie, associate nematologist, in charge.

### Holland

*Nansemond County Substation, State Agricultural Experiment Station (cooperative investigations).*—On bus line from Blacksburg; plot is one-half mile northeast of Holland.

*Horticultural Crops and Diseases.*—Studies in the development of peanut seed stocks. E. T. Batten, superintendent of the station, in local charge.

### Rosslyn

*Arlington Experiment Farm.*—Field laboratory of the Bureau of Plant Industry and several other bureaus of the Department of

Agriculture. About 2 miles southwest of Washington, D. C. May be reached by automobile or Arlington Farm bus, which makes four trips daily from the Department of Agriculture in Washington. E. C. Butterfield, senior horticulturist and superintendent, may be reached by telephone from Washington, National 4645, branch 440.

*Cereal Crops and Diseases.*—General agronomic investigations on fall-grown wheat, rye, barley, and oats. J. W. Taylor, associate agronomist, in charge. Telephone, National 4645, branch 97-2. General cereal disease investigations, especially smuts, virus studies, and the physiology of disease resistance. Directed from Washington, D. C.; A. G. Johnson, principal pathologist, in charge.

Wheat investigations, including the testing of standard varieties and of strains originated by breeding; breeding experiments to improve varieties, including resistance to leaf rust; studies of the inheritance of various characters in the wheat plant; and physiological experiments on the effect of seed treatments and on various reactions in the growth of the plant. W. J. Sando, associate agronomist, in charge.

Investigations of the relative yielding power of the different varieties and strains of fall-sown oats, of varietal competition among the more distinct types of winter oats, of the development of hardier strains by hybridization and subsequent selection, of variation in the Fulghum variety when sown in the fall, and of whether the so-called false wild oat in the Fulghum variety results from mutation or from natural crossing. T. R. Stanton, senior agronomist, and F. A. Coffman, associate agronomist, in charge.

Agronomic investigations of winter barley, including extensive varietal comparisons of domestic and introduced material, breeding and

selection studies with special reference to winter-hardiness and to utilization under southern conditions, studies on the effect of length of the light period, and the effect on germination and stand caused by seed treatments to control barley smuts. H. V. Harlan, principal agronomist, and M. N. Pope, agronomist, in charge.

Breeding and genetic studies with rice, conducted in the greenhouses. J. W. Jones, senior agronomist, in charge.

Study of effect of length of day on domestic and introduced varieties of rice (in dark houses); growing introduced rice varieties in the greenhouse, under detention, to determine their freedom from disease and the effect of disease-control measures; growing perennial rices under controlled conditions in the greenhouse. C. E. Chambliss, associate agronomist, in charge.

Investigations of rye, including varietal experiments with standard varieties and strains developed by selection; breeding experiments, especially for resistance to leaf rust; studies on the fertilization of the rye plant, with special reference to the problem of self-sterility; and genetic studies on resistance (or susceptibility) to leaf rust and on wheat-rye hybrids. W. J. Sando, associate agronomist, in charge.

Breeding and genetic studies on corn, including the principles of corn breeding and the mode of inheritance of smut resistance, chlorophyll deficiencies, endosperm defects, and other heritable characters, and studies of the relation of certain characteristics to yield and quality of crop. F. D. Richey, principal agronomist, in charge; assisted by G. F. Sprague, assistant agronomist.

Field and greenhouse studies on the control of oat smuts. V. F. Tapke, pathologist, in charge.

Field and greenhouse studies on the rôle of moisture and other physiological factors in the infection of wheat by loose smut and of oats



by loose and covered smuts. V. F. Tapke, pathologist, in charge.

Investigations on the life history and genetics of bunt and of kernel smuts of sorghum, with particular reference to the origin and pathogenicity of physiologic forms, isolating and testing physiologic forms produced through hybridization. H. A. Rodenhiser, pathologist, in charge. Telephone, National 4645, branch 97-3.

Investigations with covered smut of barley in the greenhouse and field on methods of infection, on varietal resistance, and on smut control and the effect on yield. J. W. Taylor, associate agronomist, in charge.

Greenhouse and field studies of seed treatments for the control of seed-borne cereal diseases other than smuts; studies of sorghum root rot; and studies on the longevity of the organism causing the nematode disease of wheat and rye. R. W. Leukel, associate pathologist, in charge. Telephone, National 4645, branch 97-1.

Investigations in laboratory, greenhouse, and field on the nature, cause, and control of the virus or mosaic diseases of cereals and other plants. H. H. McKinney, senior pathologist, in charge. Telephone, National 4645, branch 97-1.

Studies on the physiology of the wheat plant, with special reference to factors affecting cold resistance, fundamental differences between winter and spring wheats, and physiological and morphological factors concerned in the analysis of yield. H. H. McKinney, senior pathologist, in charge; assisted by W. J. Sando and B. B. Bayles, associate agronomists.

Studies of some of the constituents of plant sap from the different cereals; effect of varying environmental conditions; comparisons between varieties with special reference to their relative degrees of disease resistance; changes accompanying the development of the plants through the different growth periods, etc. Annie M. H. Karrer, associate physiologist, in charge.

*Drug and Related Plants.*—Experimental culture of plants yielding drugs, essential oils, vegetable oils, and related products. A. F. Sievers, senior biochemist, in charge.

*Fiber Plant Investigations.*—Hemp investigations, breeding improved strains of hemp, and production of seed for experimental purposes. L. H. Dewey, senior botanist, in charge.

*Forage Crops and Diseases.*—Investigations of cowpeas, soybeans, and velvetbeans, quantity production of seeds of desirable strains; development of improved varieties through selection; testing new varieties; growing in quantity new and rare varieties of soybeans and cowpeas. W. J. Morse, senior agronomist, in charge.

Acid-tolerant legume investigations; testing all new species and varieties of legumes of all sorts adapted to acid soils; trials with *Lespedeza sericea* and annual lespedezas are especially considered. A. J. Pieters, principal agronomist, in charge.

Melilotus (sweetclover) investigations; testing new varieties; breeding strains adapted to special uses, such as pasture and hay; cultural and fertilizer tests with sweetclover. L. W. Kephart, senior agronomist in charge.

Fine-turf investigations; trials with different strains, species and varieties of fine-turf grass; experiments on the control of diseases of fine turf; experiments on the effect of fertilizer and studies of the best method of laying down lawns in this territory (in cooperation with the United States Golf Association). A. J. Pieters, principal agronomist, in charge.

Forage-grass investigations, chiefly tests of different species of grasses in nursery rows for the purpose of studying their habits of growth and taxonomic relationships. H. N. Vinall, senior agronomist, in charge.

Red-clover investigations; a study of the permanence of the character of resistance to southern anthracnose. A. J. Pieters, principal agronomist, in charge.

*Genetics and Biophysics.*—Maize heredity studies; experiments with paper mulch. Directed from Washington, D. C.; G. N. Collins, principal botanist, in charge.

*Horticultural Crops and Diseases.*—Fruit-production investigations, mainly systematic and varietal studies. J. R. Magness, principal pomologist, in charge.

Grape investigations, including studies of varieties and varietal adaptability. J. R. Magness, principal pomologist, in charge.

Fruit and vegetable utilization investigations, including studies of unfermented fruit juices and their preparation, the fundamental principles underlying canning, and the adaptability of fruit and vegetable varieties for different methods of utilization. J. S. Caldwell, senior physiologist, in charge.

Cold-storage laboratory, operated in connection with studies of fruit and vegetable storage and transportation and the physiological response of fruits and vegetables to different storage conditions. D. F. Fisher, principal horticulturist, in charge.

Cultural and production studies, including investigations of quality, growth, and physiological behavior of vegetable crop plants, principally tomatoes, peppers, peanuts, celery, lettuce, peas, and Jerusalem artichokes. V. R. Boswell, senior horticulturist, in charge.

Breeding and selection of tomatoes, eggplants, and cucumbers for disease resistance and production of seed stock of new varieties for distribution; breeding of lettuce for resistance to tipburn and adaptation to eastern United States conditions. V. R. Boswell, senior horticulturist, in charge.

Studies in connection with vegetable variety type-book work in carrot, beet, spinach, peas, cabbage, and tomatoes. V. R. Boswell, senior horticulturist, in charge.

Investigations of diseases of tomatoes, eggplant, and cucumbers, with special reference to

the nature and control of virus disease. S. P. Doolittle, senior pathologist, in charge.

Potato investigations, including effect of different storage conditions on the vitality of seed. William Stuart, senior horticulturist, in charge.

Investigations of potato diseases (October 1 to May 1). E. S. Schultz, senior pathologist, and W. P. Raleigh, associate pathologist, in charge.

Nut-culture investigations. J. R. Magness, principal pomologist, in charge.

Nursery-stock investigations. F. E. Gardner, senior pomologist, in charge.

Bulb-culture investigations: Storage studies, natural and artificial, the latter in cooperation with cold-storage investigations; forcing investigations, dealing with bulb crops grown here and at other field stations, together with commercial and imported materials; bulb culture, handling, curing, etc. David Griffiths, senior horticulturist, in charge.

Landscape gardening and floriculture investigations, including studies of plant material represented by a rose garden and extensive collections of irises, peonies, hard chrysanthemums, and other plants. F. L. Mulford, associate horticulturist, in charge.

Field experiments in connection with investigations of diseases of sweetpotatoes; greenhouse and field experiments in connection with the study of bean diseases; breeding disease-resistant varieties of beans. L. L. Harter, senior pathologist, in charge.

Investigations of storage and market diseases of fruits, vegetables, and gladiolus bulbs, and effects of storage temperature and humidity conditions in relation thereto. D. F. Fisher, principal horticulturist, in charge.

Field experiments in connection with investigations of diseases of ornamental plants. Freeman Weiss, pathologist, in charge.

Pathological studies and experiments, in orchard and greenhouse, of various diseases of

deciduous fruit and nut trees; breeding fruits for disease resistance, with special reference to the development of superior varieties of pears resistant to blight. M. B. Waite, principal pathologist, in charge. Work on this and the following projects directed from Washington, D. C.

Field and greenhouse experiments on crown gall of the apple and other fruits. M. B. Waite, principal pathologist, and E. A. Siegler, pathologist, in charge.

Field and greenhouse investigations of blackberry diseases; also studies of diseases of strawberries and of the currant cane-blight fungus. \_\_\_\_\_, in charge.

Preliminary tests to determine the efficacy of chemicals and combinations of chemicals as prospective fungicides. J. W. Roberts, senior pathologist, in charge.

*Mycology and Disease Survey.*—Investigations on mushroom diseases and culture, including the development of new and improved methods of mushroom culture as disease-preventive measures, the study of diseases attacking the crop, and development of control measures; studies and experiments in the growing of additional species under artificial conditions as substitute crops where diseases are prevalent. E. B. Lambert, associate pathologist, in charge.

*Sugar Plant Investigations.*—Experiments on the transmission of diseases of sugarcane and sugar beets; growing sugarcane plants in quarantine previous to shipping to various foreign countries; and growing sugarcane seedlings from imported seed. E. W. Brandes, principal pathologist, in charge.

*Tobacco and Plant Nutrition.*—Plant-nutrition investigations, including effect of length of day on plant growth. Work directed from Washington, D. C.; W. W. Garner, principal physiologist, in charge.

The following bureaus of the Department of Agriculture also conduct work at the Arlington Experiment Farm: Bureau of Agricultural Engineering, Bureau of Chemistry and Soils, Bureau of Entomology, Bureau of Home Economics, Bureau of Public Roads, and the Food and Drug Administration.

## WASHINGTON

### Bellingham

*United States Bellingham Bulb Station.*—Three miles north of Bellingham (Great Northern, Northern Pacific, and Chicago, Milwaukee, St. Paul & Pacific Railroads), adjoining the city limits. Bus service every hour from Union Station; street-car and bus service within three-fourths of a mile of the station.

*Horticultural Crops and Diseases.*—Bulb-culture investigations, particularly daffodils, tulips, hyacinths, lilies, iris, crocus, galanthus, and bulbs of other genera, including all features of culture and handling. David Griffiths, senior horticulturist, in charge. Work directed from Washington, D. C., with frequent field visitations for direction and study; local supervision by B. L. Peters, senior scientific aid.

### Prosser

*Irrigation Branch Station, State Agricultural Experiment Station (cooperative investigations).*—Prosser is on the Northern Pacific Railway. Telephone H. P. Singleton, the superintendent, regarding instructions for reaching the station.

*Western Irrigation Agriculture.*—Investigations on rate of penetration of irrigation water, the water-holding capacity of the soil, and the movement of soluble salts in the soil as influenced by various methods of irrigation and as affecting field crops. C. A. Larson, agent, in charge.

## Pullman

*State Agricultural Experiment Station (cooperative investigations).*—About 1¼ miles from Northern Pacific Railway and Oregon-Washington Railroad & Navigation stations. May be reached by bus. Pullman may also be reached by bus (five daily) from Spokane.

*Cereal Crops and Diseases.*—Investigations of varietal resistance of wheat to stinking smut (bunt), and hybridization for development of bunt-resistant wheats; agronomic investigations with wheat, including varietal testing and general breeding and genetic studies, coordinated with the bunt-resistant breeding program. E. F. Gaines, agent and cereal breeder, in charge. Telephone, 365-W.

Investigations of smuts of wheat, including number and distribution of physiologic forms, and methods of control. C. S. Holton agent, in charge.

*Forage Crops and Diseases.*—Investigations of varietal adaptation and of the cultural requirements of sweetclover under dry-land conditions. Work directed from Washington, D. C.; local supervision by A. L. Hafenrichter, assistant professor of farm crops.

## Seattle

*United States Frozen-Pack Laboratory.*—Located in Spokane Street Terminal, Seattle. Telephone, Main 1068.

*Horticultural Crops and Diseases.*—Investigations on preservation, handling, storage, and transportation of fruits and vegetables by the frozen-pack method. H. C. Diehl, senior physiologist, in charge.

Microbiological studies of chilling and storage of berries, fruits, and vegetables. Work directed from Washington, D. C., by C. A. Magoon, senior bacteriologist; J. A. Berry, agent, in local charge.

### Spokane

*Blister Rust Control Field Office.*—Room 618, Realty Building, 242 Riverside Avenue. Two blocks north of Northern Pacific Railway station and four blocks southeast of Union Station. Telephone, Main 1715.

*Blister Rust Control.*—Field direction of cooperative blister rust control activities in the Northwestern and Pacific Coast States. S. N. Wyckoff, senior pathologist, in charge.

### Wenatchee

*United States Fruit Production and Disease Field Laboratory.*—Located in County Garage Building, Washington and King Streets. Telephone, 3495. Wenatchee is on the Great Northern Railway; also motor-coach service from Seattle and Spokane.

*Horticultural Crops and Diseases.*—Investigations of factors affecting fruit production; studies of diseases of fruit trees and developing fruits. C. P. Harley, associate physiologist, in charge.

Investigations in fruit and vegetable handling, transportation, and storage, including studies on spray residue removal. Henry Hartman, horticulturist, in charge.

Investigations on effect of smelter fumes on vegetation. M. C. Goldsworthy, assistant pathologist, in charge.

### Yakima

*United States Horticultural Field Laboratory.*—In West Side National Bank Building. Telephone, 9540.

*Horticultural Crops and Diseases.*—Investigations in fruit and vegetable handling and storage, including studies of spray residue removal. Work directed by Henry Hartman, horticulturist; A. L. Ryall, assistant pomologist, in local charge.



Investigations in fruit and vegetable transportation. Work directed by Henry Hartman, horticulturist; E. D. Mallison, assistant marketing specialist, in local charge.

## WEST VIRGINIA

### Lakin

*Lakin Substation, State Agricultural Experiment Station (cooperative investigations).—*

Within walking distance of the railroad station at Lakin, which is on the Baltimore & Ohio Railroad. No telephone.

*Tobacco and Plant Nutrition.*—Improvement in methods of curing tobacco and development of improved strains of Burley which are more productive and resistant to root rot. T. C. McIlvaine, agent, in charge.

### Morgantown

*State Agricultural Experiment Station (cooperative investigations).—*Within walking distance of Baltimore & Ohio Railroad station.

*Forage Crops and Diseases.*—Fertilizer treatments on old pastures, with analyses of herbage; studies of plant sequence. R. R. Robinson, agent, in charge.

### Wardensville

*Reymann Memorial Farms, State Agricultural Experiment Station (cooperative investigations).—*Winchester and Wardensville connection at Winchester, Va., with Baltimore & Ohio Railroad. Visitors should communicate with L. F. Sutton, the superintendent, at Winchester, Va., or make arrangements with R. H. Garber, head of the agronomy department, Morgantown, W. Va.

*Forage Crops and Diseases.*—Grazing and mowing experiments designed to establish the relationship between the two systems of work. Work in charge of R. R. Robinson, agent, Morgantown.

## WISCONSIN

## Madison

*State Agricultural Experiment Station (cooperative investigations).*—About 2½ miles west of Chicago & North Western Railway station. Take cars marked “Wingra Park” or “Monroe Street,” which go out University Avenue within one block of Horticultural Building.

*Cereal Crops and Diseases.*—Investigations of pathologic and physiologic phases of wheat and barley scab and related rot diseases of corn; also studies on control of Helminthosporium diseases of barley. J. G. Dickson, agent and professor of plant pathology, in charge. Telephone, Badger 580, University 215-J.

*Fiber Plant Investigations.*—Experiments in cultivation of varieties of hemp and general work for promotion of the hemp industry in Wisconsin. A. H. Wright, agent, in charge. In Agronomy Building.

*Forage Crops and Diseases.*—Investigations of forage-crop diseases and methods for their control; laboratory, greenhouse, and field studies of alfalfa wilt and other forage-crop diseases of outstanding importance. F. R. Jones, senior pathologist, in charge.

*Horticultural Crops and Diseases.*—Investigations of onion and cabbage diseases and breeding of yellow-resistant cabbage. J. C. Walker, agent, in charge. In Horticultural Building. Telephone, Badger 580. University 234-W.

Breeding disease-resistant beans and investigation of bean diseases. R. A. Brink, collaborator, in charge.

Studies in connection with vegetable variety type-book work on cabbage. J. C. Walker, agent, in charge. Telephone, Badger 580, University 234-W.

Crown gall investigations. A. J. Riker, agent, in charge.

*Tobacco and Plant Nutrition.*—Laboratory and field investigations of diseases of tobacco; improvement of tobacco by breeding. James Johnson, agent, in charge. In Horticultural Building. Telephone, Badger 580, University 296.

*State Department of Agriculture.*—In State Capitol Annex, about three blocks from railroad station. May be reached on foot or by street car.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State College of Agriculture.) V. O. Taylor, agent, acting in charge.

*Blister Rust Control.*—Cooperative control of white-pine blister rust. T. F. Kouba, agent and State leader, in charge. In office of State entomologist.

*United States Forest Pathology Field Laboratory.*—Located on campus of University of Wisconsin, in Old Soils Building. Telephone, Fairchild 1180, or Badger 580, University Exchange 37.

*Forest Pathology.*—Investigations of diseases of structural timber and forest products, in cooperation with the United States Forest Products Laboratory and University of Wisconsin. C. Audrey Richards, pathologist, in charge.

### Spooner

*Spooner Substation, State Agricultural Experiment Station (cooperative investigations).*—About 1 mile from Spooner, which is on the Chicago & North Western Railway.

*Forage Crops and Diseases.*—Tests of adaptability of soybean varieties to the extreme north. Work directed from Washington, D. C.; local supervision by E. J. Delwiche, collaborator. Post-office address, Green Bay, Wis.

### Sturgeon Bay

*Peninsular Branch Station, State Agricultural Experiment Station (cooperative investigations).*—Sturgeon Bay is about 25 miles from Green Bay, which is on the Chicago & North Western and the Chicago, Milwaukee, St. Paul & Pacific Railroads. The station is about 4 miles north of Sturgeon Bay and is reached from the latter place by bus going out State Road No. 17.

*Horticultural Crops and Diseases.*—Studies in connection with vegetable variety type-book work on peas. E. J. Delwiche, collaborator, in charge. Post-office address, Green Bay, Wis.

### Wisconsin Rapids

*Cranberry Laboratory, Wisconsin State Department of Agriculture (cooperative investigations).*—Located at State Department of Agriculture. Wisconsin Rapids is on the Chicago, Milwaukee, St. Paul & Pacific Railroad.

*Horticultural Crops and Diseases.*—Investigations of cranberry diseases. H. F. Bain, senior pathologist, in charge. (Summer months only.)

## WYOMING

### Archer

*Cheyenne Experiment Farm, State Agricultural Experiment Station (cooperative investigations).*—One mile southeast of Archer (Union Pacific Railroad), about 8 miles east of Cheyenne, and 1½ miles south of Lincoln Highway. Address, P. O. Box 298, Cheyenne. May be reached by telephone or automobile from Cheyenne.

*Drug and Related Plants.*—Field tests of safflower as an oilseed crop for the production of drying oils. Local supervision by A. L. Nelson, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production; dairy investigations in

cooperation with State Agricultural Experiment Station. A. L. Nelson, associate agronomist and superintendent, in charge.

### Cheyenne

**Cheyenne Horticultural Field Station.**—Six and one-half miles northwest of Cheyenne. No motor-bus transportation beyond Fort Francis E. Warren, which is 2½ miles from the station. May be reached by automobile from Cheyenne, or transportation arrangements may be made by communicating with the station office. Telephone, 2362. Post-office address, Box 1177, Cheyenne.

*Horticultural Crops and Diseases.*—Species and variety testing, breeding, and cultural experiments with fruits, vegetables, ornamentals, and shelter-belt plants; experimental shelter-belt and horticultural crop tests with cooperators in Central Plains area. A. C. Hildreth, agent and superintendent, in charge.

Cultural, growth, and varietal studies on the Jerusalem artichoke. A. C. Hildreth, agent and superintendent, in charge.

### Laramie

*State College of Agriculture (cooperative investigations).*—About 1 mile from center of town. May be reached on foot or by conveyance.

*Barberry Eradication.*—Campaign to locate and destroy the common barberry, which spreads the black stem rust of cereals. (Cooperation also with State Department of Agriculture.) E. A. Lungren, associate pathologist, in charge of district No. 3 (Colorado, western Nebraska, and Wyoming).

### Sheridan

**United States Dry Land Field Station.**—About 7 miles northeast of Sheridan, which is on the Chicago, Burlington & Quincy Railroad.

Telephone R. S. Towle regarding transportation, calling 8505.

*Drug and Related Plants.*—Field tests of safflower as an oilseed crop for the production of drying oils. Local supervision by R. S. Towle, associate agronomist and superintendent.

*Dry Land Agriculture.*—Dry-land crop rotations and production; soil-fertility investigations; shelter-belt investigations; and grazing and feeding investigations with sheep and swine, all in cooperation with the University of Wyoming. R. S. Towle, associate agronomist and superintendent, in charge.

*Forage Crops and Diseases.*—Agronomic investigations with alfalfa, bromegrass, field peas, millet, sweetclover, sorghum, Sudan grass, and root crops. Local supervision by R. S. Towle, associate agronomist and superintendent.

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